

March 16, 2006
PN 14BP.00191.04.0636

Inspector Terrence Palmer
City of Los Angeles Fire Department
Environmental Unit – Underground Storage Tanks
200 N. Main Street Room 1700
Los Angeles, California 90012

**RE: Additional Requirements – Site Assessment and
Request for Closure Report
ARCO Facility 00191
3401 Whittier Boulevard
Los Angeles, California
LAFD Facility ID No.10846, Division 5 Permit No. 9894**

Dear Inspector Palmer:

SECOR International Incorporated (SECOR), on behalf of the Atlantic Richfield Company (Atlantic Richfield), re-submits this *Additional Requirements–Site Assessment and Request for Closure Report* for ARCO Facility 00191 (site), located at 3401 Whittier Boulevard, in Los Angeles, California (Figures 1 and 2). The additional site assessment work was performed in response to the directive by the City of Los Angeles Fire Department (LAFD) dated April 22, 2004 (Appendix A). All work was conducted according to SECOR's *Workplan for Site Assessment*, submitted to the LAFD on January 4, 2002 and implemented under California Code of Regulations Title 23, Division 3, Chapter 16, Article 11 § 2724. Soil boring B-9 was drilled in November 2004 to provide additional lateral definition of petroleum hydrocarbon impacted soil at the site. Site assessment work was completed on December 29, 2004 after receipt of the final analytical results and the generated waste was characterized and properly disposed of or recycled.

SECOR's Additional Requirements Site Assessment and Remedial Action Plan (RAP) was originally submitted to the LAFD on June 6, 2005. In a letter dated August 4, 2005, the LAFD requested additional information (Appendix A). In a subsequent phone conversation between SECOR and the LAFD, the LAFD requested that the Additional Requirements – Site Assessment Report and RAP, submitted by SSECOR on June 6, 2005 be as submitted as two separate reports. This report summarizes site description, regional geology and hydrogeology, site background, potential receptors, scope of additional field work, findings, conclusions and recommendations, request for closure, and standard limitations.

SITE DESCRIPTION

The site is an active ARCO gasoline service station and am/pm™ mini mart, located on the northeast corner of Whittier Boulevard and Lorena Street in the City of Los Angeles (Figure 1). The site is positioned at an elevation of approximately 290 feet above mean sea level (amsl). Local topography slopes to the south at approximately 0.045 feet per foot (USGS, 1966). The facility consists of a station building located near the center of the site, three 12,000-gallon, double-walled fiberglass gasoline underground storage tanks (USTs) located in the southern portion of the site with two dispenser islands to the north, and one dispenser island to the southwest of the USTs. No new development plans are proposed for the near future. Adjacent properties consist of commercial/industrial and residential structures.

REGIONAL GEOLOGY/HYDROGEOLOGY

Physiographically, the site is situated in the northwestern portion of the Montebello Plain. The Montebello Plain, gently sloping and relatively flat, is composed of alluvial materials that overlie a marine-cut terrace. The Montebello Plain is approximately seven miles wide and extends from the Repetto and Merced Hills in the north to the Rio Hondo River and Whittier Narrows to the south and southeast. The Montebello Plain is bounded on the west by the Los Angeles Narrows and southwest by the Los Angeles River.

Site and vicinity soils are mapped as Upper Pleistocene age Lakewood Formation (Qlw). The Qwl is approximately 160 feet thick in the vicinity of the site and generally consists of terrace deposited gravel, sand, sandy silt, silt, and clay, and may also contain a semi-perched aquifer, the Bellflower Aquiclude, and the Exposition and Gage Aquifers.

The site is situated within the Montebello Forebay Area of the Los Angeles Central Groundwater Basin. The Central Groundwater Basin is bounded on the west and south by the Newport/Inglewood Uplift and on the north by the Hollywood Basin. The low lying Elysian Hills border the northwest of the basin and to the southeast are the Puente Hills. The Los Angeles Central Groundwater Basin is divided into three areas: the Los Angeles Forebay and Montebello Forebay Areas and the Pressure Area. The Forebay refers to the areas of intake or recharge, where the major basin aquifers are replenished; the Pressure Area is generally defined as the area in the basin where surface water and shallow groundwater are prevented from percolating in large quantities into the major producible aquifers by clays and silt layers at shallow depths. The primary water-producing aquifers for the Los Angeles Central Groundwater Basin are those within the lower Lakewood Formation and the underlying San Pedro Formation.

In the vicinity of the site, the Bellflower Aquiclude, consisting of sandy-gravelly clay-rich sediments, is approximately 60 feet thick. The Exposition Aquifer extends from approximately 60 to 110 feet below ground surface (bgs) and is comprised of lenticular sandy and gravelly beds separated by fine lenses of silt and clay. The Gage Aquifer extends from approximately 110 to 160 feet bgs, is merged with the overlying Exposition Aquifer, and is comprised of sand and sandy clay with some gravel. The Aquifers of the San Pedro Formation (Hollydale, Lynwood, Silverado, and Sunnyside) are composed of coarse-grained sands and gravels. The Hollydale Aquifer occurs approximately from 175 to 190 feet bgs, the Lynwood Aquifer occurs approximately from 325 to 400 feet bgs, the Silverado Aquifer occurs from 525 to 650 feet bgs, and the Sunnyside Aquifer occurs from 875 to 1,025 feet bgs in the vicinity of the site.

The closest naturally occurring surface water is the Los Angeles River channel, located approximately 1.5 miles west of the site. The Los Angeles River carries surface water from the San Fernando Valley into the Coastal Plain through the Los Angeles Narrows. The Los Angeles Narrows, a natural topographic separation between the Elysian and Repetto Hills, is located approximately three miles from the site. The area in the vicinity of the Los Angeles Narrows is a regional groundwater recharge area. The regional groundwater flow is anticipated to be south to southeast (CDWR, 1961).

SITE BACKGROUND

Documentation shows that the site has been an active station since 1989 to present. On June 13, 1989, Hunter/Gregg Incorporated (Hunter) performed a pre-drill assessment prior to the removal of three gasoline USTs. Three soil borings (B1 through B3) were installed to a depth of 40 feet bgs peripheral to the USTs. Soil boring locations are shown on Figure 2. Two samples from each boring location were analyzed for total petroleum hydrocarbons as gasoline (TPHg). No detectable concentrations of TPHg were identified in any of the submitted soil samples (Hunter, 1989A). Historical soil analytical data is provided in Table 1.

In July 1989, Hunter observed the removal of two 8,000-gallon and one 6,000-gallon steel gasoline USTs at the site. Soil samples WL-1 through WL-5 were collected approximately two feet beneath the former USTs and samples WL-3A and WL-5A were collected approximately six feet beneath the former USTs (Figure 2). Four stockpile soil samples (WL-7 through WL-10 and SP-1) were also collected for laboratory analysis. Elevated TPHg concentrations were detected near the northeastern portion of the UST excavation at a maximum concentration of 7,320 milligrams per kilogram (mg/kg) (WL-5, Table 1). Three 12,000-gallon, double-walled gasoline USTs were installed within the same excavation (Hunter, 1989B). Approximately 400 tons of soil excavated during facility upgrade activities was transported off site.

On December 17 and 18, 1990, and February 6, 1991, Environmental Science & Engineering (ESE) advanced six soil borings (B4 through B9), converting boring B6 to a soil vapor extraction (SVE) well VW-1 (Figure 2). Soil samples collected from the boring contained detectable TPHg concentrations ranging from 1.7 mg/kg (B9-25) to 13,000 mg/kg (B8-25). Detectable benzene concentrations ranged from 0.11 mg/kg (B-9-30) to 81 mg/kg (B8-25) (Table 1). Groundwater was not encountered during the drilling investigation (ESE, 1991).

On May 14, 1991, ESE installed two SVE Wells, VW-2 and VW-3 (Figure 2). Soil samples were collected from the borings and analyzed for TPHg and for benzene, toluene, ethylbenzene and total xylenes (collectively BTEX). Maximum concentrations of 87 mg/kg TPHg and 0.69 mg/kg benzene were detected in soil sample VW-2 at approximately 24 feet bgs (Table 1) (ESE, 1991).

On June 4, 1991, ESE performed a SVE test using Wells VW-1 through VW-3. Air flow rates ranged from 50 to 74 standard cubic feet per minute (scfm) at vacuums ranging from 0.26 to 11 inches of water. The calculated radius of influence (ROI) ranged from 25 to 40 feet. Air samples collected during the SVE test contained maximum concentrations of 890 parts per million by volume (ppmv) TPHg and 21 ppmv benzene from Well VW-3 (ESE, 1991).

On March 24, 1992, ESE installed additional SVE Well VW-4 (Figure 2) to a depth of approximately 35 feet bgs. Soil samples collected from the boring for laboratory analysis contained maximum concentrations of 3,100 mg/kg TPHg (VW4-10) and 0.77 mg/kg benzene (VW4-10) (ESE, 1992).

On May 19, 1994, a SVE system consisting of a 200 scfm positive displacement blower coupled to two 1,200-pound vapor-phase carbon canisters began continuous operation at the site. Initial concentrations of TPHg and benzene were detected in vapor samples at concentrations of 2,650 ppmv and 620 ppmv, respectively. Due to high source concentrations encountered during February 1995, an internal combustion engine (ICE) was installed, replacing the carbon system. The ICE system operated until October of 1996, removing approximately 20,504 pounds of the total volatile hydrocarbons (TVH) and 30 pounds of benzene from the subsurface soils. The site received a letter of "No Further Action" (NFA) from the LAFD on October 15, 1997. The SVE system operational data is reported in EMCON's Fourth Quarter 1996 VES Performance Report; tables and graphs are provided in Appendix B (EMCON, 1997).

On July 2 and 5, 2001, Delta Environmental Consultants (Delta) collected eight soil samples from beneath the former dispensers (D1 through D6, D1-05, and D2-05) and seven samples beneath the former product lines (P1 through P4 and P1-05 through P3-05) during facility upgrade activities (Figure 2). Soil samples were analyzed for TPHg, BTEX, methyl tertiary butyl ether (MTBE), tertiary butanol (TBA), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), and tertiary amyl methyl ethyl ether (TAME). Detectable concentrations of adsorbed-phase hydrocarbons were identified in 13 of the 15 soil samples. Maximum concentrations of TPHg, benzene, MTBE, and TBA were reported at concentration of 1,700 mg/kg (P2), 7.8 mg/kg (D5), 15 mg/kg (D5) and 0.36 mg/kg (P1), respectively. DIPE, ETBE, and TAME were not detected above the reporting limit (Delta, 2001).

During March 2003, SECOR advanced Soil Borings SB-1 through SB-7 to define the lateral and vertical extent of petroleum hydrocarbon impact detected during facility upgrade activities conducted in July 2001 (Figure 2). During the installation of SB-4 and SB-5, elevated hydrocarbons were encountered at shallow depths (to approximately 30 feet bgs) and the borings were converted to dual nested SVE Wells SVE-1 and SVE-2, respectively. Soil samples were collected from all the borings and analyzed for TPHg, BTEX, MTBE, DIPE, ETBE, TAME, TBA and ethanol. Maximum concentrations of 6,800 mg/kg TPHg (SVE-2-25), 3.4 mg/kg benzene (SVE-2-25), and 0.072 mg/kg MTBE (SVE-2-20) were reported. DIPE, ETBE, TAME and ethanol were not detected above the reporting limit. SVE well construction details are provided in Table 2. SECOR submitted a Site Assessment Report and Request for Closure on August 13, 2003 to the LAFD (SECOR, 2003).

POTENTIAL RECEPTORS

According to the Los Angeles County Department of Public Works (LACDPW) Division of Hydrologic Records, there are three inactive wells (2808C, 2818C, and 2818D) located within a one-mile radius of the site. The most recent groundwater gauging data for these wells was reported in 1978 and 1988 at depths ranging from 191 feet bgs in well 2818C (10/31/88) to 241.7 feet bgs in well 2808C (4/14/78). Production well locations are shown in Figure 1. The well receptor information is summarized in Table 3. Groundwater beneath the site is anticipated to be encountered at depths greater than 240 feet bgs.

SECOR performed additional research using the Geographic Environmental Information Management System (GEIMS) database via the Geotracker website (<http://geotracker.swrcb.ca.gov/>). According to the GEIMS database, there are no municipal wells identified within a half-mile radius of the site.

SCOPE OF ADDITIONAL FIELD WORK

Pre-field Activities

All field activities were completed with safety as a foremost concern. A site-specific health and safety plan (HASP) was prepared for the drilling and potential well installation activities conducted at the site. All SECOR personnel, as well as any other on-site subcontractors or regulatory personnel, were required to familiarize themselves with and sign the HASP in an attempt to minimize safety hazards. Prior to drilling at the site, SECOR marked the proposed boring location and notified Underground Service Alert (USA), a California State-specific underground utility notification service (USA ticket no. A3100767). USA contacted the owners of the various utilities in the vicinity of the site to mark the locations of their underground utilities. Additionally, Spectrum Geophysics, a private utility locator, was contracted to further evaluate and mark the locations of any potential subsurface underground utilities not identified by USA. All prefield activities, including utility clearance, were conducted according to *Precautionary Procedures and Guidelines Document for Drilling, Subsurface Investigations and Remedial Construction Activities for GEM Retail Operations*. Notifications were made to the LAFD, the facility manager, the drilling contractor, and Atlantic Richfield at least 5 days prior to the initiation of work.

Soil Boring Installation

On November 10, 2004, SECOR supervised CAL PAC Drilling (CAL PAC) of Calimesa, California (C57 #766402) during the advancement of soil boring B-9. Prior to any invasive work, CAL PAC hand augered to a minimum depth of five feet bgs in an effort to prevent compromising the integrity of unidentified subsurface obstructions. Drilling was completed using a CME-85 drill rig equipped with hollow-stem augers. Soil boring B-9 was installed in the southwestern portion of the site in the vicinity of SVE well SVE-1.

For logging, field screening and laboratory analysis, 16 soil samples were collected at five-foot intervals from approximately five to 80 feet bgs (maximum depth explored). Qualified SECOR personnel, working under direct supervision of a State of California Registered Professional Engineer logged the borings in accordance with the Unified Soil Classification System (USCS), using visual and manual methods for parameters including odor, staining, color, grain size, and moisture content. Collected soil samples were field screened for volatile organic compounds (VOC) using a MiniRae 2000 photo-ionization detector (PID). All soil samples collected for laboratory analysis were prepared in accordance with EPA Method 5035 using five-gram EnCore™ samplers and placed in an ice-filled cooler for preservation. The samples were transported under chain-of-custody (COC) protocol to Del Mar Analytical (Del Mar), in Irvine, California, a state of California certified laboratory for analysis. The soil boring was backfilled to approximately three feet bgs with high solids bentonite grout, capped with two feet of hydrated bentonite chips, and sealed at the surface with concrete dyed to match the existing surface grade. Drilling and soil sampling procedures are provided in Appendix C.

Waste Disposal

Soil cuttings generated during drilling activities were placed in labeled, Department of Transportation (DOT)-approved, 55-gallon steel drums and stored on-site pending receipt of the analytical results. Following analytical characterization, soil drums were removed from the site by Belshire Environmental and transported to TPS Technologies, Incorporated (TPS) in Adelanto, California, for recycling. Waste disposal documentation for soil is presented in Appendix D.

FINDINGS

Site Geology

Soils encountered during the investigation consisted of silt with sand, silty sand, and silt from surface grade to approximately 22 feet bgs. Well-graded sand with gravel and interbedded poorly graded sand and silt was encountered from approximately 22 to 42 feet bgs underlain by a silt layer from approximately 42 to 52 feet bgs. Well-graded sand with gravel was observed between 52 and 77 feet bgs, and silty sand was encountered from approximately 77 to 80 feet bgs (total depth explored). Groundwater was not encountered during drilling activities. Geologic cross-sections A-A' and B-B' depict the subsurface lithology and are provided as Figures 3 and 4. Drill logs for boring B-9 are provided in Appendix E.

Organic Vapor Analysis

Organic vapors were measured in the field using a MiniRae 2000 PID. Elevated hydrocarbon vapors were primarily detected at depths between approximately 20 and 35 feet bgs. Field concentrations of organic vapors are provided on the boring logs in Appendix E.

Soil Analytical Results

All soil samples were relinquished to Del Mar and analyzed for gasoline range organics, carbon chain C₄ through C₁₂, (GRO) according to Environmental Protection Agency (EPA) Method 8015, and for BTEX, MTBE, DIPE, ETBE, TAME, TBA, and ethanol by EPA Method 8260B. Petroleum hydrocarbon constituents were detected in soil samples collected primarily between approximately 20 and 30 feet bgs. Maximum concentrations of 5,900 mg/kg GRO (B-9-30), 1.3 mg/kg benzene, 0.0048 J mg/kg MTBE (B-9-35), and 0.034 J mg/kg TBA (B-9-15) were detected. A "J-flag" is a statistically estimated concentration at or above the laboratory method detection limit (LMDL), but below the laboratory reporting limit (LRL). GRO concentrations were below LRL in soil samples collected below 30 feet bgs. No DIPE, ETBE, TAME, or ethanol were detected above the LRL. A summary of the analytical data from soil boring B-9 is presented in Table 1 with other historical soil data. Copies of the certified laboratory analytical reports and COC documentation are included in Appendix F.

CONCLUSIONS and RECOMMENDATIONS

Soil borings SB-1, SB-2, and SB-3 adequately defined the lateral and vertical extent of the hydrocarbon impacted soil in the UST area. Borings SB-6 and SB-7, installed north of the northern most product dispenser islands, provided lateral and vertical definition of the hydrocarbon plume in this area. Soil Borings SB-4/SVE-1 and SB-5/SVE-2, installed in the southwestern portion of the site defined the vertical extent of hydrocarbon impacted soil.

The lateral extent of hydrocarbon impacted soil is adequately defined by SB-1 and SB-3 to the southeast, by SB-2 to the south, and by SB-6 and SB-7 to the north-northeast. Soil boring B-9, located in the southwestern portion of the site, contained hydrocarbon impacted soil to a depth of approximately 30 feet bgs. Hydrocarbon concentrations were not detected above the LRL between 35 and 80 feet bgs, providing adequate vertical definition with approximately 50 vertical feet of clean soil. The lateral extent of the hydrocarbon impacted soil is not assessed in the southwestern portion of the site. Based on soil analytical data the lateral extent of impacted soil is apparently limited as shown in Figure 5.

Due to the location of numerous on and off-site subsurface obstructions detected during SECOR's prefield investigation activities, there is a significant hazard of encountering subsurface interference in the southwestern corner of the site and at the intersection of Whittier Boulevard and Lorena Street. SECOR does not propose additional lateral assessment in the vicinity of B-9 at this time.

REQUEST FOR CLOSURE

Based on the evaluation of the site conditions, the following provides justification for the issuance of a NFA letter and low risk site closure:

1) The source of the release has been removed or remediated:

All sources and potential sources of hydrocarbon impact at the site, USTs, product dispensers, associated product piping, and hydrocarbon impacted soil have been remediated and/or removed from the site.

TPHg and benzene were initially detected in subsurface soil at the site in July 1989 during facility upgrade activities at the site involving removal of gasoline-containing USTs. During further activities conducted in July 1989, piping and USTs were removed and replaced. Product dispensers and product were removed and replaced in July 2001.

Approximately 400 tons of potentially impacted soil was excavated and removed from the site during the upgrade activities.

Active remediation consisting of SVE activities were conducted at the site between May 1994 and October 1996 removing approximately 20,204 pounds of TVH and 30 pounds of benzene from subsurface soils. Subsequently, the site received a letter of NFA from the LAFD on October 15, 1997.

2) The site has been adequately characterized:

Soil borings advanced by SECOR during March 2003 and December 2004 effectively defined the lateral and vertical extent of the hydrocarbon-impacted soil at the site. Eight soil borings were advanced to depths varying from 50 to 100 feet bgs in the western portion of the site (SB-1 through SB-7 and B-9). Based on criteria outlined in the LAFD letter, dated October 3, 2001, "...borings shall extend the minimum of 20 feet below the lowest level of non-detection" (Appendix A). Borings at the site were advanced at a minimum of 25 feet below hydrocarbon concentrations detected in accordance with the LAFD letter.

Concentrations of TPHg and MTBE were not detected above the LRL and below the LMDL used for petroleum hydrocarbon impacted sites by the State of California California Regional Water Quality Control Board – Los Angeles Region (RWQCB – LAR) for the following sampling intervals presented below:

Continuous Feet of Non-Detection for TPHg and MTBE

Soil Boring	Continuous feet of NDs for TPHg from terminus of boring	Continuous feet of NDs for MTBE from terminus of boring
SB-1	55	75
SB-2	65	40
SB-3	50	75
SB-4	25 (40)	55
SB-5	40	35
SB-6	50	50
SB-7	50	45
B-9	25 (30)	25 (40)

Notes: ND = defined for discussion purpose in table as a concentration not detected above the MDL

() = Continuous feet of non-detection below MDLs set by RWQCB-LAR criteria for petroleum hydrocarbon impacted sites. MDLs for TPHg and MTBE are 0.2 mg/kg and 0.002 mg/kg, respectively.

Based on the intervals presented above and consideration of MDLs used for assessment of other petroleum impacted sites by the RWQCB – LAR, the site adheres to criteria set by the LAFD for 25 and 40 continuous feet of non-detection of TPHg and MTBE, respectively.

The zone of impacted hydrocarbons appears to be confined to the silt lens located between approximately 25 and 35 feet bgs and does not appear to impact neither of the lithologic zones in contact above and below the silt. Therefore, these limited pockets of hydrocarbon-impacted soil are unlikely to migrate and impact lower lithologic zones.

3) Sensitive receptors:

According to the LACDPW and GEIMS, there are no public drinking water supply wells located within a ½ -mile radius of the site. No drinking water wells, deep aquifers, or surface waters have been or are likely to be affected. Groundwater has not been impacted at the site based on available assessment data and is highly unlikely to migrate downward and impact any usable aquifer system.

4) The site presents no significant risk to human health or the environment:

Hydrocarbon impacted soil is defined to an area located in southwestern portion of the site and just off site to the southwest. Due to the anticipated depth to groundwater at approximately 240 feet bgs and over 150 feet of clean soil between any detectable concentrations, the site does not pose a threat to human health or the environment.

Therefore, on behalf of Atlantic Richfield Company, SECOR respectively requests that a NFA letter be issued for this site.

STANDARD LIMITATIONS

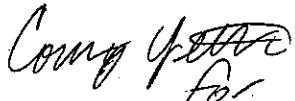
This report has been prepared for the exclusive use of ARCO and its representatives as it pertains to the property located at 3401 Whittier Boulevard, Los Angeles, California. Evaluations of the geologic conditions at the site for the purpose of this investigation may be inherently limited due to the number of observation points. There are no representations, warranties, or guarantees that the sampling points are representative of the entire site. Data collected in response to this work may reflect the conditions at specific locations at a specific point in time. No other interpretations, warranties, guarantees, expressed or implied, are included or intended in the contents of this report.

All work was performed under the supervision of a Professional Geologist or Registered Civil Engineer in the State of California. The information contained in this report represents SECOR's professional opinions, and is based in part on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

If you have any questions regarding the contents of this report, please contact Ms. Cathy L. Sanford at (714) 230-0334.

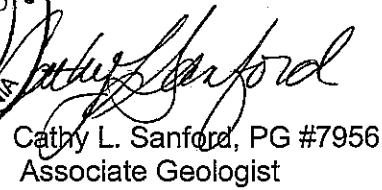
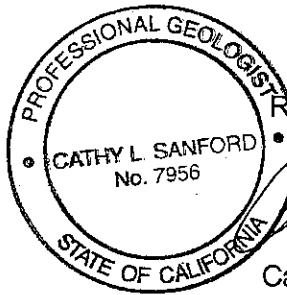
Sincerely,
SECOR International Incorporated

Prepared by:



Lucas Barroso-Giachetti, E.I.T.
Project Engineer

Reviewed and Approved by:



Cathy L. Sanford, PG #7956
Associate Geologist

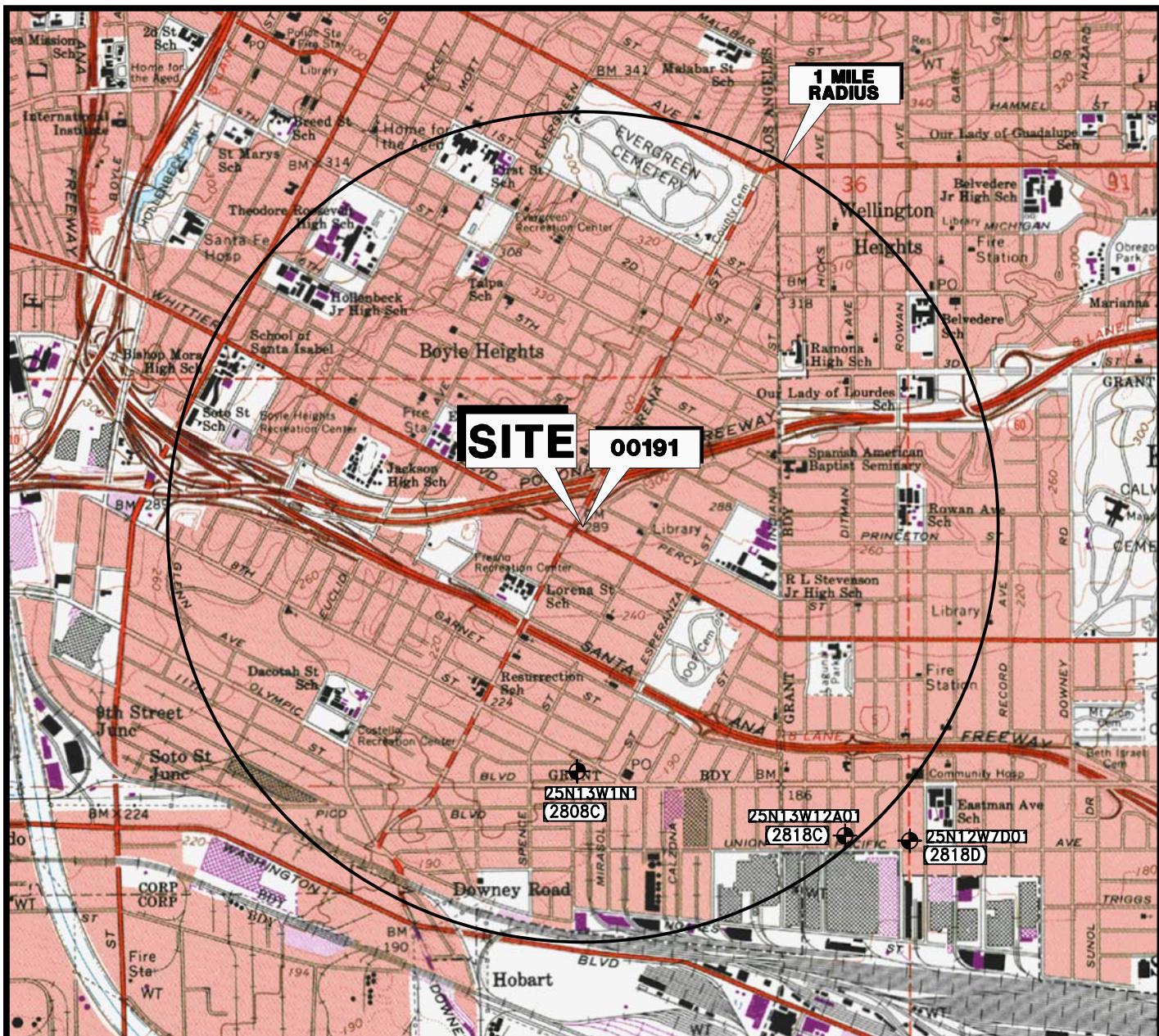
- Attachments:
- Figure 1 – Site Location Map Showing Identified Wells Within a One-Mile Radius
 - Figure 2 – Site Map
 - Figure 3 – Cross Section A-A'
 - Figure 4 – Cross Section B-B'
 - Figure 5 – Site Map Showing Hydrocarbon Concentrations in Soil
 - Table 1 – Historical Soil Analytical Data
 - Table 2 – SVE Well Construction Details
 - Table 3 – Wells Identified Within a One Mile Radius
 - Appendix A – LAFD Correspondence
 - Appendix B – Vapor Extraction System Historical Operational Data
 - Appendix C – Standard Operating Procedures for Soil Sampling
 - Appendix D – Waste Disposal Documentation
 - Appendix E – Boring Logs
 - Appendix F – Laboratory Analytical Reports and COC Documents
 - Appendix G - RWQCB – LAR General Laboratory Testing Requirements for Petroleum Hydrocarbon Impacted Sites

cc: Mr. Darrell Fah – Atlantic Richfield Company

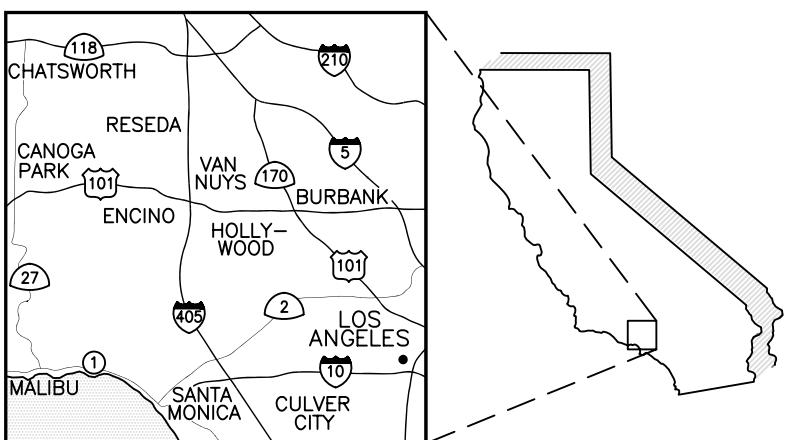
REFERENCES

- CDWR, 1961. *Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County*, Appendix A Ground Water Geology. California Department of Water Resources, Bulletin No. 104, Plate 3A/6A Cross Section A-A". June 1961, Reprinted May, 1990.
- Delta, 2001. *Dispenser Soil Sampling Report*, ARCO Facility No. 0191, 3401 Whittier Boulevard, Los Angeles, California, Delta Environmental Consultants, Incorporated. August 23.
- EMCON, 1997. *VES Performance Report for the Fourth Quarter 1996*, ARCO Station No. 191, 3401 East Whittier Boulevard, Los Angeles, California, February 3.
- ESE, 1991. Results of a Vapor Extraction Test at ARCO Station #191 located at 3401 East Whittier Boulevard, Los Angeles, California. Environmental Science & Engineering Incorporated. November 20.
- ESE, 1992. *Additional Well Installation*, ARCO Station #191, 3401 East Whittier Boulevard, Los Angeles, California, Environmental Science & Engineering Incorporated. June 1.
- Hunter, 1989 A. Pre-drilling Assessment for ARCO Station #191 located at East Whittier Boulevard, Los Angeles, California. Hunter Gregg Environmental Services Incorporated. June 30.
- Hunter, 1989 B. ARCO Station #191 ARCO Station #191, 3401 East Whittier Boulevard, Los Angeles, California. Hunter Gregg Environmental Services Incorporated. August 22.
- SECOR, 2003. Site Assessment Report and Request for Closure, ARCO Station No. 0191, 3401 East Whittier Boulevard, Los Angeles, California, SECOR International Incorporated. August 13.
- USGS, 1966. *Los Angeles Quadrangle*, – Los Angeles County, 7.5 minute series (topographic), revised 1981: USGS, scale 1:24,000, 1 sheet. United States Geological Survey.

Figures

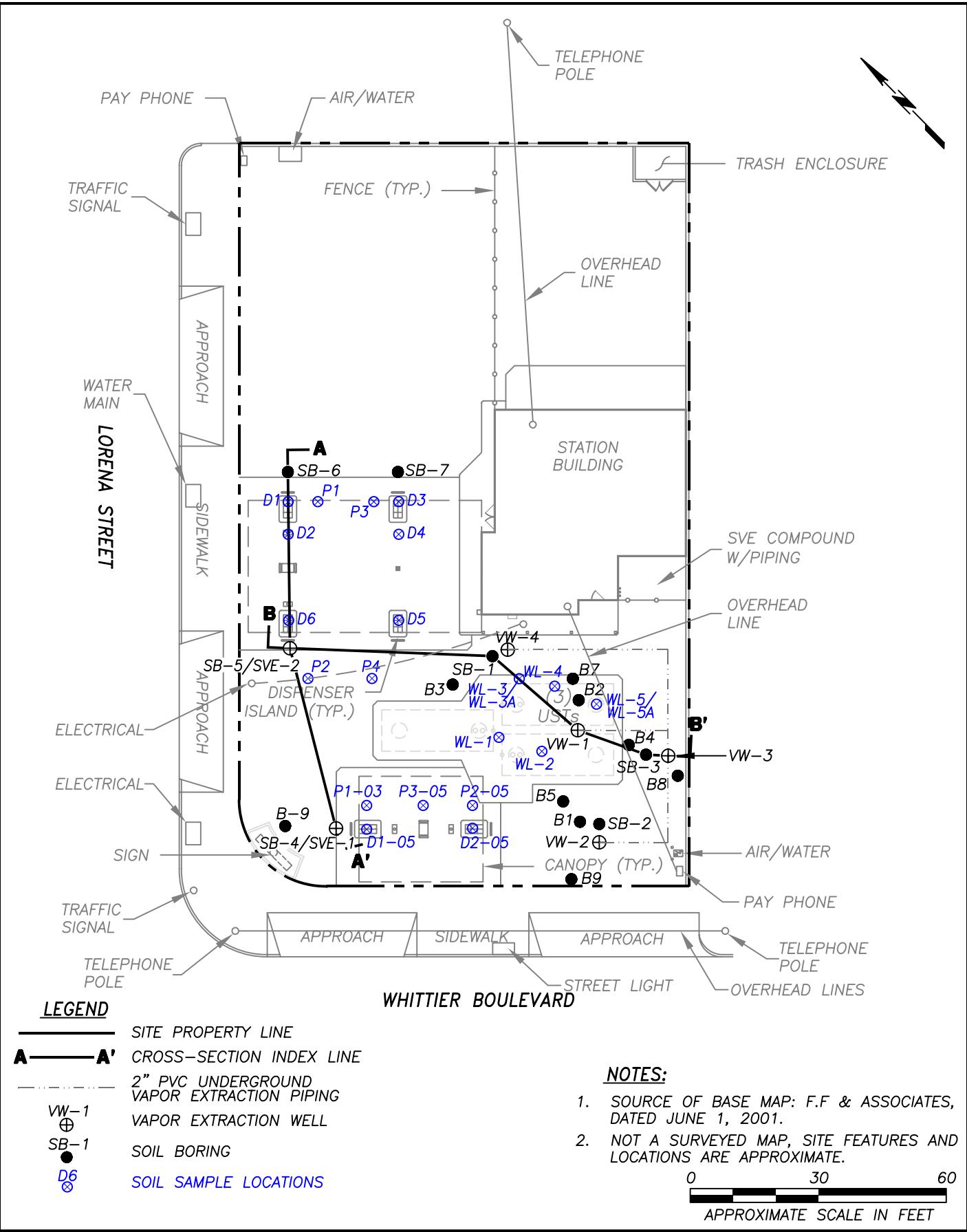


SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, LOS ANGELES QUADRANGLE, 1966
PHOTOREVISED 1981
MINOR REVISION 1994

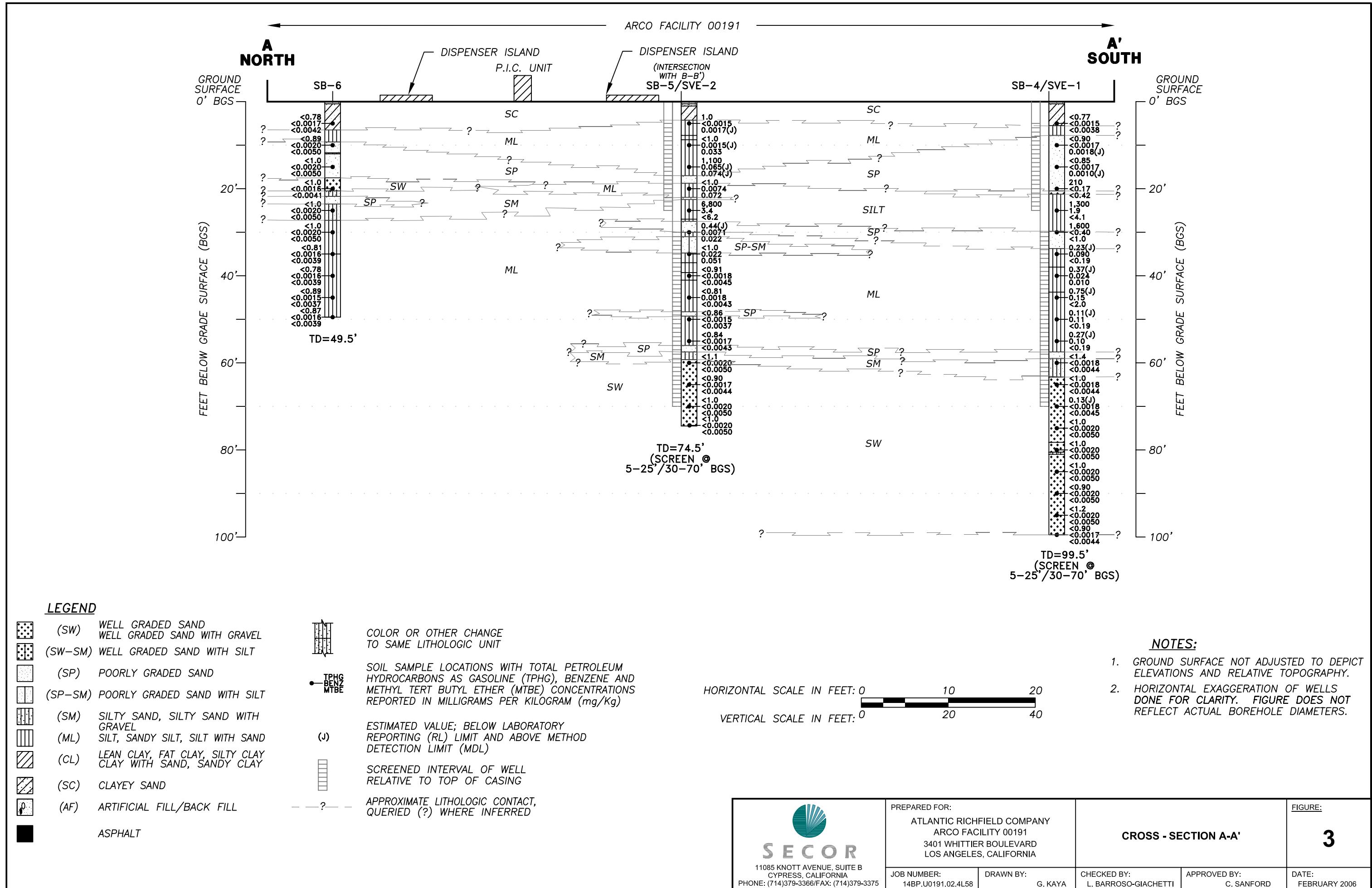


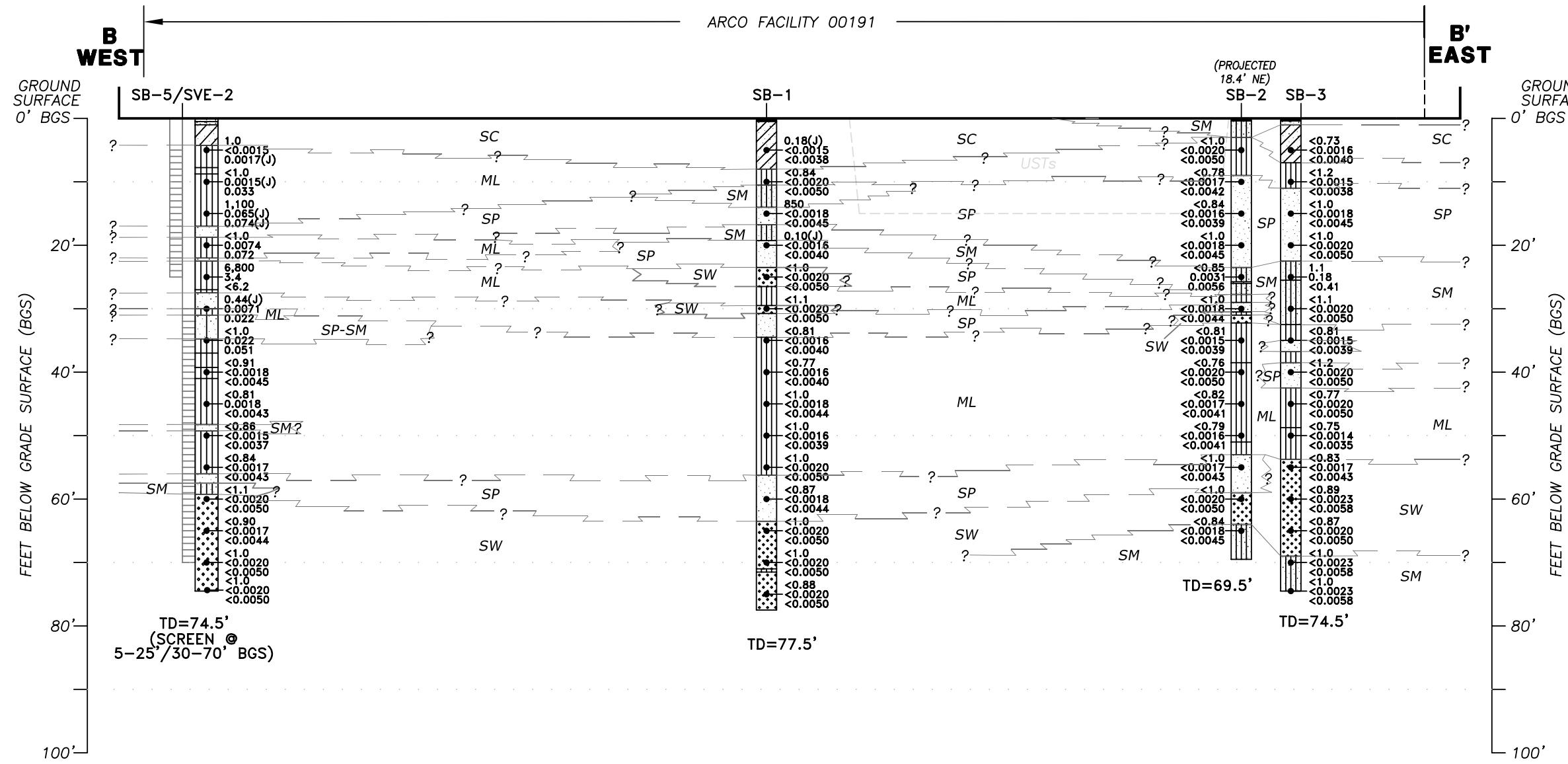
NORTH
SCALE
1 inch = 2000 feet
0 1000 2000

 SECOR 11085 KNOTT AVENUE, SUITE B CYPRESS, CALIFORNIA PHONE: (714)379-3366/FAX: (714)379-3375	PREPARED FOR:		FIGURE:	
	ATLANTIC RICHFIELD COMPANY ARCO FACILITY 00191 3401 WHITTIER BOULEVARD LOS ANGELES, CALIFORNIA		1	
	JOB NUMBER: 14BP.U0191.02.4L58	DRAWN BY: G. KAYA	CHECKED BY: L. BARROSO GIACCHETTI	APPROVED BY: C. SANFORD
				DATE: FEBRUARY 2006



 SECOR 11085 KNOTT AVENUE, SUITE B CYPRESS, CALIFORNIA PHONE: (714)379-3366/FAX: (714)379-3375	PREPARED FOR:		FIGURE:	
	ATLANTIC RICHFIELD COMPANY ARCO FACILITY 00191 3401 WHITTIER BOULEVARD LOS ANGELES, CALIFORNIA		SITE MAP	
JOB NUMBER: 14BP.U0191.02.4L58	DRAWN BY: G. KAYA	CHECKED BY: L. BARROSO GIACCHETTI	APPROVED BY: GIACCHETTI	DATE: FEBRUARY 2006





LEGEND

- | | | |
|--|---------|--|
| | (SW) | WELL GRADED SAND |
| | (SW-SM) | WELL GRADED SAND WITH GRAVEL |
| | (SP) | POORLY GRADED SAND |
| | (SP-SM) | POORLY GRADED SAND WITH SILT |
| | (SM) | SILTY SAND, SILTY SAND WITH GRAVEL |
| | (ML) | SILT, SANDY SILT, SILT WITH SAND |
| | (CL) | LEAN CLAY, FAT CLAY, SILTY CLAY CLAY WITH SAND, SANDY CLAY |
| | (SC) | CLAYEY SAND |
| | (AF) | ARTIFICIAL FILL/BACK FILL |
| | | ASPHALT |

**COLOR OR OTHER CHANGE
TO SAME LITHOLOGIC UNIT**

• TPHG
BENZ
MTBE

SOIL SAMPLE LOCATIONS WITH TOTAL PETROLEUM HYDROCARBONS AS GASOLINE (TPHG), BENZENE AND METHYL TERT BUTYL ETHER (MTBE) CONCENTRATION REPORTED IN MILLIGRAMS PER KILOGRAM (mg/Kg)

(j) ESTIMATED VALUE; BELOW LABORATORY REPORTING LIMIT (RL) AND ABOVE METHOD DETECTION LIMIT (MDL)

SCREENED INTERVAL OF WELL
RELATIVE TO TOP OF CASING

—?— APPROXIMATE LITHOLOGIC CONTACT,
QUERIED (?) WHERE INFERRED

NOTES:

1. GROUND SURFACE NOT ADJUSTED TO DEPICT ELEVATIONS AND RELATIVE TOPOGRAPHY.
 2. HORIZONTAL EXAGGERATION OF WELLS DONE FOR CLARITY. FIGURE DOES NOT REFLECT ACTUAL BOREHOLE DIAMETERS.



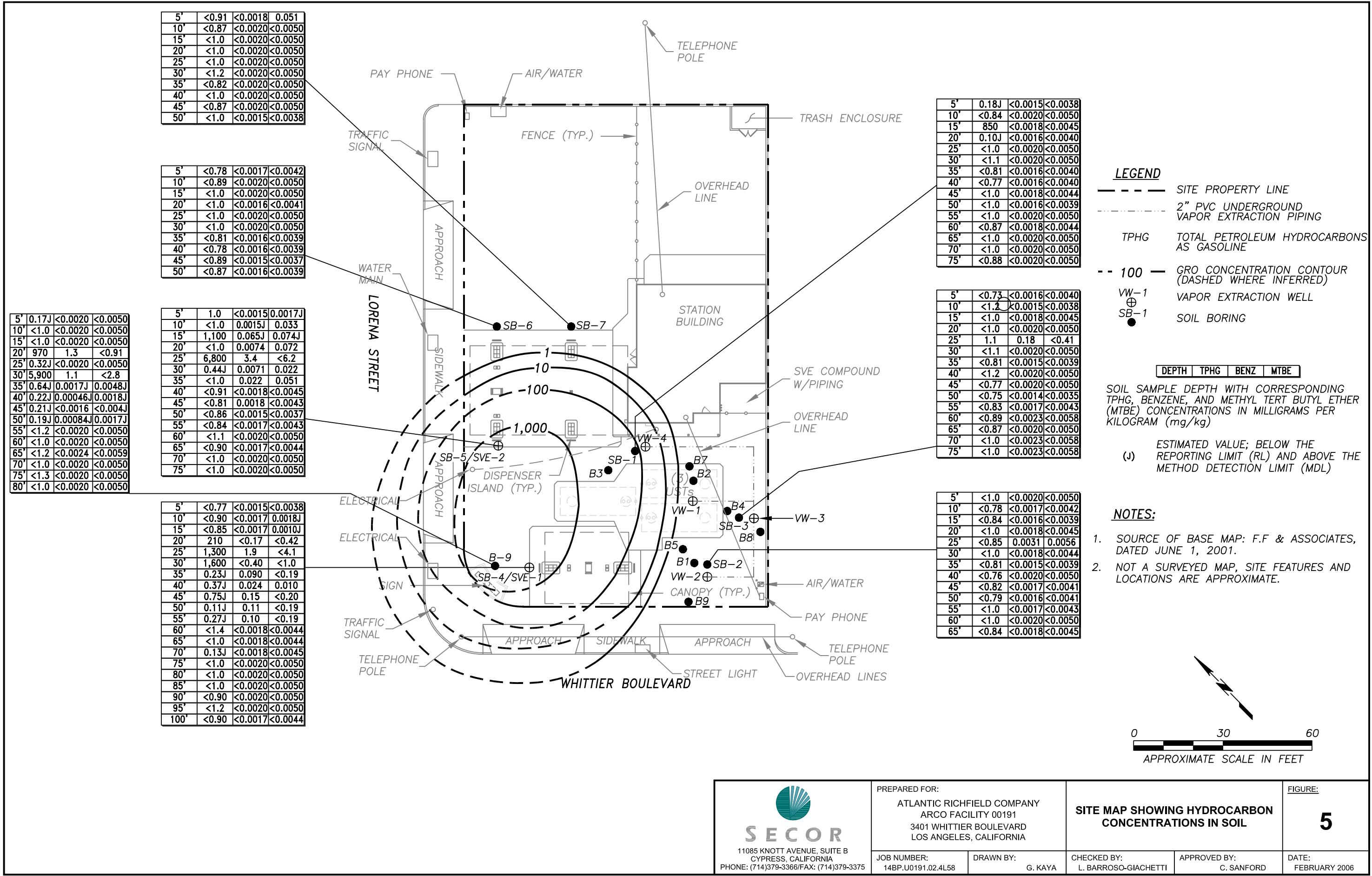
The logo consists of a circular emblem with radiating lines resembling a sunburst or fan, rendered in a teal or green color. Below this emblem, the word "SECOR" is printed in a large, bold, sans-serif font. Underneath "SECOR", there is a line of address information.

PREPARED FOR:
ATLANTIC RICHFIELD COMPANY
ARCO FACILITY 00191
3401 WHITTIER BOULEVARD
LOS ANGELES, CALIFORNIA

CROSS - SECTION B-B

FIGURE:

1



Tables

TABLE 1
HISTORICAL SOIL ANALYTICAL DATA
ARCO FACILITY 00191
3401 EAST WHITTIER BLVD
LOS ANGELES, CALIFORNIA

SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH feet bgs	GRO mg/kg	BENZENE mg/kg	TOLUENE mg/kg	ETHYL-BENZENE mg/kg	TOTAL XYLENES mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	Ethanol mg/kg
B1-15	6/13/89	15	<5.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B1-40	6/13/89	40	<5.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B2-15	6/13/89	15	<5.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B2-40	6/13/89	40	<5.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B3-10	6/13/89	10	<5.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B3-40	6/13/89	40	<5.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WL-1	7/6/89	14	<10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WL-2	7/6/89	14	<10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WL-3	7/6/89	14	3,970	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WL-3A	7/6/89	18	2,328	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WL-4	7/6/89	14	4,050	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WL-5	7/6/89	14	7,320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WL-5A	7/6/89	18	196	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WL-7	7/6/89	N/A	218	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WL-8	7/6/89	N/A	2,540	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WL-9	7/6/89	N/A	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WL-10	7/6/89	N/A	262	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SP-1	7/6/89	N/A	3,050	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B4-5	12/17/90	5	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B4-10	12/17/90	10	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B4-15	12/17/90	15	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B4-20	12/17/90	20	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B4-25	12/17/90	25	3,800	44	310	110	580	N/A	N/A	N/A	N/A	N/A	N/A
B4-30	12/17/90	30	<1.0	<0.05	<0.05	<0.05	0.1	N/A	N/A	N/A	N/A	N/A	N/A
B4-35	12/17/90	35	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B4-40	12/17/90	40	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B4-45	12/17/90	45	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B4-50	12/17/90	50	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B5-5	12/17/90	5	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B5-10	12/17/90	10	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B5-15	12/17/90	15	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B5-20	12/17/90	20	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B5-25	12/17/90	25	1,900	24	140	52	270	N/A	N/A	N/A	N/A	N/A	N/A
B5-30	12/17/90	30	4.2	<0.05	0.25	0.14	0.75	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 1
HISTORICAL SOIL ANALYTICAL DATA
ARCO FACILITY 00191
3401 EAST WHITTIER BLVD
LOS ANGELES, CALIFORNIA

SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH feet bgs	GRO mg/kg	BENZENE mg/kg	TOLUENE mg/kg	ETHYL-BENZENE mg/kg	TOTAL XYLEMES mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	Ethanol mg/kg
B5-35	12/17/90	35	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B5-40	12/17/90	40	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B5-45	12/17/90	45	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B5-50	12/17/90	50	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW1-20	12/18/90	20	3,000	<0.05	15	20	430	N/A	N/A	N/A	N/A	N/A	N/A
VW1-25	12/18/90	25	23	1.5	1.5	0.35	2.1	N/A	N/A	N/A	N/A	N/A	N/A
VW1-30	12/18/90	30	<1.0	<0.05	0.12	<0.05	0.12	N/A	N/A	N/A	N/A	N/A	N/A
VW1-35	12/18/90	35	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW1-40	12/18/90	40	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW1-45	12/18/90	45	<1.0	<0.05	0.16	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW1-50	12/18/90	50	<1.0	<0.05	0.15	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B7-5	12/18/90	5	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B7-10	12/18/90	10	1,100	<0.05	<0.05	3.1	37	N/A	N/A	N/A	N/A	N/A	N/A
B7-15	12/18/90	15	2,200	6.7	<0.05	7.8	68	N/A	N/A	N/A	N/A	N/A	N/A
B7-20	12/18/90	20	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B7-25	12/18/90	25	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B7-30	12/18/90	30	<1.0	0.12	0.15	<0.05	0.09	N/A	N/A	N/A	N/A	N/A	N/A
B7-35	12/18/90	35	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B7-40	12/18/90	40	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B7-45	12/18/90	45	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B7-50	12/18/90	50	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B8-5	2/6/91	5	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B8-10	2/6/91	10	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B8-15	2/6/91	15	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B8-20	2/6/91	20	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B8-25	2/6/91	25	13,000	81	740	260	1,400	N/A	N/A	N/A	N/A	N/A	N/A
B8-30	2/6/91	30	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B8-35	2/6/91	35	<1.0	<0.05	<0.05	<0.05	0.08	N/A	N/A	N/A	N/A	N/A	N/A
B8-40	2/6/91	40	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B8-45	2/6/91	45	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B8-50	2/6/91	50	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B9-5	2/6/91	5	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B9-10	2/6/91	10	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B9-15	2/6/91	15	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A

TABLE 1
HISTORICAL SOIL ANALYTICAL DATA
ARCO FACILITY 00191
3401 EAST WHITTIER BLVD
LOS ANGELES, CALIFORNIA

SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH feet bgs	GRO mg/kg	BENZENE mg/kg	TOLUENE mg/kg	ETHYL-BENZENE mg/kg	TOTAL XYLEMES mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	Ethanol mg/kg
B9-20	2/6/91	20	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
B9-25	2/6/91	25	1.7	0.29	0.09	0.09	0.2	N/A	N/A	N/A	N/A	N/A	N/A
B9-30	2/6/91	30	<1.0	0.11	0.10	<0.05	0.14	N/A	N/A	N/A	N/A	N/A	N/A
B9-35	2/6/91	35	<1.0	<0.05	<0.05	<0.05	0.08	N/A	N/A	N/A	N/A	N/A	N/A
B9-40	2/6/91	40	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW-2-4	5/14/91	4	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW-2-9	5/14/91	9	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW-2-14	5/14/91	14	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW-2-19	5/14/91	19	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW-2-24	5/14/91	24	87	0.69	0.22	2.9	6.2	N/A	N/A	N/A	N/A	N/A	N/A
VW-2-29	5/14/91	29	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW-2-34	5/14/91	34	1.5	0.18	0.09	0.09	0.13	N/A	N/A	N/A	N/A	N/A	N/A
VW-2-39	5/14/91	39	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW3-5	5/14/91	5	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW3-10	5/14/91	10	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW3-15	5/14/91	15	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW3-20	5/14/91	20	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW3-25	5/14/91	25	<1.0	<0.05	<0.05	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A
VW3-30	5/14/91	30	<1.0	<0.05	0.11	<0.05	0.09	N/A	N/A	N/A	N/A	N/A	N/A
VW3-35	5/14/91	35	2.1	<0.05	0.23	0.10	0.44	N/A	N/A	N/A	N/A	N/A	N/A
VW4-5	3/24/92	5	85	<0.005	<0.005	<0.005	0.047	N/A	N/A	N/A	N/A	N/A	N/A
VW4-10	3/24/92	10	3,100	0.77	<0.005	2.1	20	N/A	N/A	N/A	N/A	N/A	N/A
VW4-15	3/24/92	15	<1.0	<0.005	<0.005	<0.005	<0.015	N/A	N/A	N/A	N/A	N/A	N/A
VW4-20	3/24/92	20	<1.0	<0.005	0.087	0.6	2.5	N/A	N/A	N/A	N/A	N/A	N/A
VW4-25	3/24/92	25	1.0	0.005	0.021	0.011	0.056	N/A	N/A	N/A	N/A	N/A	N/A
VW4-30	3/24/92	30	2.2	0.017	0.047	0.013	0.074	N/A	N/A	N/A	N/A	N/A	N/A
VW4-35	3/24/92	35	<1.0	<0.005	<0.005	<0.005	<0.015	N/A	N/A	N/A	N/A	N/A	N/A
D1	7/2/01	3	<0.620	<0.280	<0.280	<0.280	0.11	<0.560	<2.8	<0.560	<0.560	<0.560	N/A
D2	7/2/01	3	0.77	<0.0050	<0.0050	<0.0050	<0.0050	0.027	<0.050	<0.010	<0.010	<0.010	N/A
D3	7/2/01	3	860	<2.5	3.8	18	80	<5.0	<25.0	<5.0	<5.0	<5.0	N/A
D4	7/2/01	3	530	<0.24	<0.24	1	0.74	<0.480	<2.4	<0.480	<0.480	<0.480	N/A
D5	7/2/01	3	1,000	7.8	23	24	110	15	<8.5	<1.7	<1.7	<1.7	N/A
D6	7/2/01	3	130	<0.290	<0.290	0.55	1.5	3.1	<2.90	<0.580	<0.580	<0.580	N/A

TABLE 1
HISTORICAL SOIL ANALYTICAL DATA
ARCO FACILITY 00191
3401 EAST WHITTIER BLVD
LOS ANGELES, CALIFORNIA

SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH feet bgs	GRO mg/kg	BENZENE mg/kg	TOLUENE mg/kg	ETHYL-BENZENE mg/kg	TOTAL XYLEMES mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	Ethanol mg/kg
P1	7/2/01	3	0.33	<0.0061	<0.0061	<0.0061	<0.0061	0.3	0.036	<0.012	<0.012	<0.012	N/A
P2	7/2/01	3	1,700	<2.8	<2.8	27	<2.8	<5.7	<28.0	<5.70	<5.70	<5.70	N/A
P3	7/2/01	3	260	0.27	<0.230	3.1	0.34	1.9	<2.30	<0.450	<0.450	<0.450	N/A
P4	7/2/01	3	590	<0.240	<0.240	1.7	9.9	0.28	<2.40	<0.480	<0.480	<0.480	N/A
D1-05	7/5/01	3	4.0	<0.270	<0.270	<0.270	0.23	0.85	<2.70	<0.550	<0.550	<0.550	N/A
D2-05	7/5/01	3	<0.560	<0.0062	<0.0062	<0.0062	<0.0062	<0.012	<0.062	<0.012	<0.012	<0.012	N/A
P1-05	7/5/01	3	1.3	<0.270	0.23	<0.270	0.31	1.9	<2.70	<0.540	<0.540	<0.540	N/A
P2-05	7/5/01	3	20	<0.270	0.14	0.13	0.69	0.74	<2.70	<0.530	<0.530	<0.530	N/A
P3-05	7/5/01	3	<0.500	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.050	<0.010	<0.010	<0.010	N/A
SB-1-5	3/3/03	5	0.18 J	<0.0015	<0.0015	<0.0015	<0.0030	<0.0038	<0.038	<0.0038	<0.0038	<0.0038	<0.11
SB-1-10	3/3/03	10	<0.84	<0.0020	0.0010 J	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-1-15	3/3/03	15	850	<0.0018	0.00092 J	0.0041	0.0019 J	<0.0045	<0.045	<0.0045	<0.0045	<0.0045	<0.13
SB-1-20	3/3/03	20	0.10 J	<0.0016	<0.0016	<0.0016	<0.0032	<0.0040	<0.040	<0.0040	<0.0040	<0.0040	<0.12
SB-1-25	3/3/03	25	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-1-30	3/3/03	30	<1.1	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-1-35	3/3/03	35	<0.81	<0.0016	<0.0016	<0.0016	<0.0032	<0.0040	<0.040	<0.0040	<0.0040	<0.0040	<0.12
SB-1-40	3/3/03	40	<0.77	<0.0016	<0.0016	<0.0016	<0.0032	<0.0040	<0.040	<0.0040	<0.0040	<0.0040	<0.12
SB-1-45	3/3/03	45	<1.0	<0.0018	<0.0018	<0.0018	<0.0035	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	<0.13
SB-1-50	3/3/03	50	<1.0	<0.0016	<0.0016	<0.0016	<0.0031	<0.0039	<0.039	<0.0039	<0.0039	<0.0039	<0.12
SB-1-55	3/3/03	55	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-1-60	3/3/03	60	<0.87	<0.0018	<0.0018	<0.0018	<0.0035	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	<0.13
SB-1-65	3/3/03	65	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-1-70	3/3/03	70	<1.0	<0.0020	0.00061 J	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-1-75	3/3/03	75	<0.88	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-2-5	3/3/03	5	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-2-10	3/3/03	10	<0.78	<0.0017	<0.0017	<0.0017	<0.0034	<0.0042	<0.042	<0.0042	<0.0042	<0.0042	<0.13
SB-2-15	3/3/03	15	<0.84	<0.0016	<0.0016	<0.0016	<0.0031	<0.0039	<0.039	<0.0039	<0.0039	<0.0039	<0.12
SB-2-20	3/3/03	20	<1.0	<0.0018	<0.0018	<0.0018	<0.0036	<0.0045	<0.045	<0.0045	<0.0045	<0.0045	<0.13
SB-2-25	3/3/03	25	<0.85	0.0031	<0.0020	0.00064 J	<0.0040	0.0056	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-2-30	3/3/03	30	<1.0	<0.0018	<0.0018	<0.0018	<0.0035	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	<0.13
SB-2-35	3/3/03	35	<0.81	<0.0015	<0.0015	<0.0015	<0.0031	<0.0039	<0.039	<0.0039	<0.0039	<0.0039	<0.12
SB-2-40	3/3/03	40	<0.76	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-2-45	3/3/03	45	<0.82	<0.0017	<0.0017	<0.0017	<0.0033	<0.0041	<0.041	<0.0041	<0.0041	<0.0041	<0.12
SB-2-50	3/3/03	50	<0.79	<0.0016	<0.0016	<0.0016	<0.0033	<0.0041	<0.041	<0.0041	<0.0041	<0.0041	<0.12
SB-2-55	3/3/03	55	<1.0	<0.0017	<0.0017	<0.0017	<0.0034	<0.0043	<0.043	<0.0043	<0.0043	<0.0043	<0.13

TABLE 1
HISTORICAL SOIL ANALYTICAL DATA
ARCO FACILITY 00191
3401 EAST WHITTIER BLVD
LOS ANGELES, CALIFORNIA

SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH feet bgs	GRO mg/kg	BENZENE mg/kg	TOLUENE mg/kg	ETHYL-BENZENE mg/kg	TOTAL XYLEMES mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	Ethanol mg/kg
SB-2-60	3/3/03	60	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-2-65	3/3/03	65	<0.84	<0.0018	<0.0018	<0.0018	<0.0036	<0.0045	<0.045	<0.0045	<0.0045	<0.0045	<0.14
SB-3-5	3/4/03	5	<0.73	<0.0016	<0.0016	<0.0016	<0.0032	<0.0040	<0.040	<0.0040	<0.0040	<0.0040	<0.12
SB-3-10	3/4/03	10	<1.2	<0.0015	<0.0015	<0.0015	<0.0031	<0.0038	<0.038	<0.0038	<0.0038	<0.0038	<0.12
SB-3-15	3/4/03	15	<1.0	<0.0018	<0.0018	<0.0018	<0.0036	<0.0045	<0.045	<0.0045	<0.0045	<0.0045	<0.13
SB-3-20	3/4/03	20	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-3-25	3/4/03	25	1.1	0.18	<0.17	8.1	2.0	<0.41	<8.3	<0.41	<0.41	<0.41	<25
SB-3-30	3/4/03	30	<1.1	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-3-35	3/4/03	35	<0.81	<0.0015	<0.0015	<0.0015	<0.0031	<0.0039	<0.039	<0.0039	<0.0039	<0.0039	<0.12
SB-3-40	3/4/03	40	<1.2	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-3-45	3/4/03	45	<0.77	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-3-50	3/4/03	50	<0.75	<0.0014	<0.0014	<0.0014	<0.0028	<0.0035	<0.035	<0.0035	<0.0035	<0.0035	<0.11
SB-3-55	3/4/03	55	<0.83	<0.0017	<0.0017	<0.0017	<0.0035	<0.0043	<0.043	<0.0043	<0.0043	<0.0043	<0.13
SB-3-60	3/4/03	60	<0.89	<0.0023	<0.0023	<0.0023	<0.0046	<0.0058	<0.058	<0.0058	<0.0058	<0.0058	<0.17
SB-3-65	3/4/03	65	<0.87	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-3-70	3/4/03	70	<1.0	<0.0023	<0.0023	<0.0023	<0.0046	<0.0058	<0.058	<0.0058	<0.0058	<0.0058	<0.17
SB-3-75	3/4/03	75	<1.0	<0.0023	<0.0023	<0.0023	<0.0046	<0.0058	<0.058	<0.0058	<0.0058	<0.0058	<0.17
SVE-1-5	3/4/03	5	<0.77	<0.0015	<0.0015	<0.0015	<0.0030	<0.0038	<0.038	<0.0038	<0.0038	<0.0038	<0.11
SVE-1-10	3/4/03	10	<0.90	<0.0017	<0.0017	<0.0017	<0.0033	0.0018 J	<0.042	<0.0042	<0.0042	<0.0042	<0.13
SVE-1-15	3/4/03	15	<0.85	<0.0017	<0.0017	<0.0017	<0.0034	0.0010 J	<0.042	<0.0042	<0.0042	<0.0042	<0.13
SVE-1-20	3/4/03	20	210	<0.17	0.094 J	5.3	28	<0.42	<8.4	<0.42	<0.42	<0.42	<25
SVE-1-25	3/4/03	25	1,300	1.9	64	64	330	<4.1	<81	<4.1	<4.1	<4.1	<240
SVE-1-30	3/4/03	30	1,600	<0.40	9.1	22	110	<1.0	<20	<1.0	<1.0	<1.0	<60
SVE-1-35	3/4/03	35	0.23 J	0.090	0.72	0.19	0.95	<0.19	<3.8	<0.19	<0.19	<0.19	<11
SVE-1-40	3/4/03	40	0.37 J	0.024	0.15	0.050	0.25	0.010	<0.037	<0.0037	<0.0037	<0.0037	<0.11
SVE-1-45	3/4/03	45	0.75 J	0.15	0.67	0.32	1.6	<0.20	<4.0	<0.20	<0.20	<0.20	<12
SVE-1-50	3/4/03	50	0.11 J	0.11	0.030 J	0.23	0.83	<0.19	<3.8	<0.19	<0.19	<0.19	<11
SVE-1-55	3/4/03	55	0.27 J	0.10	0.043J	0.21	0.79	<0.19	<3.8	<0.19	<0.19	<0.19	<11
SVE-1-60	3/4/03	60	<1.4	<0.0018	0.00056	0.00062 J	0.0031 J	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	<0.13
SVE-1-65	3/4/03	65	<1.0	<0.0018	0.0025	0.0016 J	0.010	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	<0.13
SVE-1-70	3/4/03	70	0.13 J	<0.0018	0.00061 J	<0.0018	0.0026 J	<0.0045	<0.045	<0.0045	<0.0045	<0.0045	<0.13
SVE-1-75	3/4/03	75	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SVE-1-80	3/4/03	80	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SVE-1-85	3/4/03	85	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SVE-1-90	3/4/03	90	<0.90	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SVE-1-95	3/4/03	95	<1.2	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15

TABLE 1
HISTORICAL SOIL ANALYTICAL DATA
ARCO FACILITY 00191
3401 EAST WHITTIER BLVD
LOS ANGELES, CALIFORNIA

SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH feet bgs	GRO mg/kg	BENZENE mg/kg	TOLUENE mg/kg	ETHYL-BENZENE mg/kg	TOTAL XYLEMES mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	Ethanol mg/kg
SVE-1-100	3/4/03	100	<0.90	<0.0017	<0.0017	<0.0017	<0.0034	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	<0.13
SVE-2-5	3/5/03	5	1.0	<0.0015	<0.0015	0.059	0.082	0.0017 J	0.027 J	<0.0037	<0.0037	<0.0037	<0.11
SVE-2-10	3/5/03	10	<1.0	0.0015 J	0.00071 J	0.0065	0.0051	0.033	0.94	<0.0045	<0.0045	<0.0045	<0.14
SVE-2-15	3/5/03	15	1,100	0.065 J	1.5	2.4	13	0.074 J	<5.0	<0.25	<0.25	<0.25	<15
SVE-2-20	3/5/03	20	<1.0	0.0074	0.056	0.020	0.14	0.072	0.13	<0.0043	<0.0043	<0.0043	<0.13
SVE-2-25	3/5/03	25	6,800	3.4	160	100	530	<6.2	<120	<6.2	<6.2	<6.2	<380
SVE-2-30	3/5/03	30	16	0.0071	0.014	0.034	0.19	0.022	0.035 J	<0.0050	<0.0050	<0.0050	<0.15
SVE-2-35	3/5/03	35	<1.0	0.022	0.034	0.097	0.43	0.051	0.050	<0.0042	<0.0042	<0.0042	<0.13
SVE-2-40	3/5/03	40	<0.91	<0.0018	<0.0018	<0.0018	<0.0036	<0.0045	<0.045	<0.0045	<0.0045	<0.0045	<0.14
SVE-2-45	3/5/03	45	<0.81	0.0018	0.019	0.0077	0.039	<0.0043	<0.043	<0.0043	<0.0043	<0.0043	<0.13
SVE-2-50	3/5/03	50	<0.86	<0.0015	<0.0015	<0.0015	<0.0029	<0.0037	<0.037	<0.0037	<0.0037	<0.0037	<0.11
SVE-2-55	3/5/03	55	<0.84	<0.0017	<0.0017	<0.0017	<0.0034	<0.0043	<0.043	<0.0043	<0.0043	<0.043	<0.13
SVE-2-60	3/5/03	60	<1.1	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SVE-2-65	3/5/03	65	<0.90	<0.0017	0.00082 J	<0.0017	0.0022 J	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	<0.13
SVE-2-70	3/5/03	70	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SVE-2-75	3/5/03	75	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-6-5	3/5/03	5	<0.78	<0.0017	<0.0017	<0.0017	0.0011 J	<0.0042	<0.042	<0.0042	<0.0042	<0.0042	<0.13
SB-6-10	3/5/03	10	<0.89	<0.0020	<0.0020	<0.0020	0.0010 J	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-6-15	3/5/03	15	<1.0	<0.0020	<0.0020	<0.0020	0.0013 J	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-6-20	3/5/03	20	<1.0	<0.0016	<0.0016	<0.0016	<0.0033	<0.0041	<0.041	<0.0041	<0.0041	<0.0041	<0.12
SB-6-25	3/5/03	25	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-6-30	3/5/03	30	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-6-35	3/5/03	35	<0.81	<0.0016	<0.0016	<0.0016	<0.0031	<0.0039	<0.039	<0.0039	<0.0039	<0.0039	<0.12
SB-6-40	3/5/03	40	<0.78	<0.0016	<0.0016	<0.0016	<0.0032	<0.0039	<0.039	<0.0039	<0.0039	<0.0039	<0.12
SB-6-45	3/5/03	45	<0.89	<0.0015	<0.0015	<0.0015	<0.0029	<0.0037	<0.037	<0.0037	<0.0037	<0.0037	<0.11
SB-6-50	3/5/03	50	<0.87	<0.0016	<0.0016	<0.0016	<0.0031	<0.0039	<0.039	<0.0039	<0.0039	<0.0039	<0.12
SB-7-5	3/5/03	5	<0.91	<0.0018	<0.0018	<0.0018	<0.0035	0.051	<0.044	<0.0044	<0.0044	<0.0044	<0.13
SB-7-10	3/5/03	10	<0.87	<0.0020	<0.0020	<0.0020	0.0010 J	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-7-15	3/5/03	15	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-7-20	3/5/03	20	<1.0	<0.0020	<0.0020	<0.0020	0.0022 J	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-7-25	3/5/03	25	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-7-30	3/5/03	30	<1.2	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-7-35	3/5/03	35	<0.82	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-7-40	3/5/03	40	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-7-45	3/5/03	45	<0.87	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.15
SB-7-50	3/5/03	50	<1.0	<0.0015	<0.0015	<0.0015	<0.0031	<0.0038	<0.038	<0.0038	<0.0038	<0.0038	<0.12

TABLE 1
HISTORICAL SOIL ANALYTICAL DATA
ARCO FACILITY 00191
3401 EAST WHITTIER BLVD
LOS ANGELES, CALIFORNIA

SAMPLE ID	SAMPLE DATE	SAMPLE DEPTH feet bgs	GRO mg/kg	BENZENE mg/kg	TOLUENE mg/kg	ETHYL-BENZENE mg/kg	TOTAL XYLEMES mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	Ethanol mg/kg
B-9-5	11/10/04	5	0.17 J	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
B-9-10	11/10/04	10	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
B-9-15	11/10/04	15	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	0.034 J	<0.0050	<0.0050	<0.0050	<0.30
B-9-20	11/10/04	20	970	1.3	32	18	86	<0.91	<18	<0.91	<0.91	<0.91	<55
B-9-25	11/10/04	25	0.32 J	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	0.018 J	<0.0050	<0.0050	<0.0050	<0.30
B-9-30	11/10/04	30	5,900	1.1	37	71	370	<2.8	<57	<2.8	<2.8	<2.8	<170
B-9-35	11/10/04	35	0.64 J	0.0017 J	0.0012 J	0.010	0.029	0.0048 J	<0.0050	<0.0050	<0.0050	<0.0050	<0.30
B-9-40	11/10/04	40	0.22 J	0.00046 J	<0.0018	0.0015 J	0.0024 J	0.0018 J	<.044	<0.0044	<0.0044	<0.0044	<0.26
B-9-45	11/10/04	45	0.21 J	<0.0016	<0.0016	<0.0016	0.0013 J	<0.0040	<0.040	<0.0040	<0.0040	<0.0040	<0.24
B-9-50	11/10/04	50	0.19 J	0.00084 J	<0.0016	0.0039	0.012	0.0017 J	0.012 J	<0.0040	<0.0040	<0.0040	<0.24
B-9-55	11/10/04	55	<1.2	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
B-9-60	11/10/04	60	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
B-9-65	11/10/04	65	<1.2	<0.0024	<0.0024	<0.0024	<0.0047	<0.0059	<0.059	<0.0059	<0.0059	<0.0059	<0.35
B-9-70	11/10/04	70	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
B-9-75	11/10/04	75	<1.3	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
B-9-80	11/10/04	80	<1.0	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30

Notes:

mg/kg - Milligrams per kilogram

bgs - Below ground surface

<0.0020 - Below reporting limit and method detection limit

N/A - Not analyzed

J - Estimated value (below laboratory reporting limit and above method detection limit)

GRO - Gasoline range organics (C₄ to C₁₂)

TBA - Tertiary butanol

DIPE - Di-isopropyl ether

ETBE - Ethyl-tertiary-butyl ether

TAME - Tertiary-amyl-methyl ether

MTBE - Methyl-tertiary-butyl ether

TABLE 2
SVE WELL CONSTRUCTION DETAILS
ARCO FACILITY 00191
3401 EAST WHITTIER BLVD
LOS ANGELES, CALIFORNIA

Well Number	Well Installation Date	Well Destruction Date	Casing Diameter inches	Casing Slot Size inches	Total Depth feet bgs	Screen Interval feet bgs
VW-1	12/1/1990	NA	4	0.020	45	15.5-45.5
VW-2	5/14/1991	NA	4	0.020	35	20-35
VW-3	5/14/1991	NA	4	0.020	35	20-35
VW-4	5/14/1991	NA	4	0.020	35.5	20.5-35.5
SVE-1S	3/5/2003	NA	2	0.020	25	5-25
SVE-1D	3/5/2003	NA	2	0.020	70	30-70
SVE-2S	3/4/2003	NA	2	0.020	25	5-25
SVE-2D	3/4/2003	NA	2	0.020	70	30-70

Notes: bgs = below ground surface
 NA = Not Applicable

TABLE 3
WELLS IDENTIFIED WITHIN A ONE MILE RADIUS
ARCO FACILITY 00191
3401 EAST WHITTIER BLVD
LOS ANGELES, CALIFORNIA

State Well ID No.	Well ID No.	Usage	Well Status	Well Operator	Well Location	Approximate Distance/Direction From site in feet	Total Depth (feet bgs)	Perforation Intervals (feet bgs)	Well Casing Diameter	Date Last Gauged	Wellhead Elevation feet amsl	Depth to Water feet bgs	Groundwater Elevation feet amsl
25N13W1N1	2808C	Ice Plant Supply	Inactive	City Ice Co.	3558 Hunter Street	3,200' South of Site	532'	--	8"	4/14/1978	196.0'	241.7'	-45.7'
25N13W12A01	2818C	Public Supply	Inactive	California Water Service	1275 South Dittman Avenue	5,280' Southeast of Site	480'	216'-480'	16"	10/31/1988	187.2'	191.0'	-3.8'
25N12W7D01	2818D	Public Supply	Inactive	California Water Service	4119 Union Pacific Avenue	5,600' Southeast of Site	464'	192'-456'	16"	5/31/1978	184.5'	227.0'	-42.5'

Legend:

-- Information not available at the time of this report or not available to the public

amsl - above mean sea level

bgs - Below ground surface

source - Geographic Information Management System (GEIMS) database via Geotracker website

APPENDIX A

CITY OF LOS ANGELES

BOARD OF
FIRE COMMISSIONERS

DAVID W. FLEMING
PRESIDENT

MEL WILSON
VICE-PRESIDENT

LARRY GONZALEZ

ELIZABETH H. LOWE

WILLIAM A. BURKE

LYNNE NELSON
EXECUTIVE ASSISTANT

CALIFORNIA



JAMES K. HAHN
MAYOR

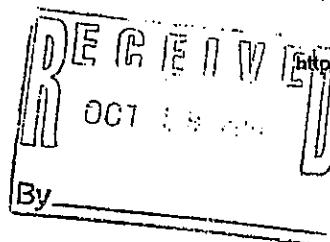
DEPARTMENT OF FIRE

200 NORTH MAIN STREET
LOS ANGELES, CA 90012

WILLIAM R. BAMATTRE
FIRE CHIEF

(213) 485-8003

<http://www.ci.la.ca.us/dept/LAFD>



October 3, 2001

RECD OCT 29 2001

Mr. Ray Vose
Arco Products Company
4 Centerpointe Drive LPR4-460
La Palma, CA 90623-1066

Dear Mr. Vose:

Arco Facility No. 0191
3401 Whittier Boulevard
Los Angeles, California

The Fire Department has reviewed the Dispenser Soil Sampling Report dated August 23, 2001, as submitted by Delta Environmental Consultants, Incorporated.

Based on the information provided, contamination above this Department's action level exists at this site.
Enclosed please find:

1. Fire/Life Safety Violation Notice Number 160755 to provide a site assessment and submit the proposal of remediation.
2. Invoice Number 9894-1 dated September 25, 2001, for the amount of \$218 to initiate the site assessment.
3. Unauthorized Release Form.

Failure to pay the invoice or submit the documents will delay the processing of this site.

If you require additional information from the City of Los Angeles Fire Department, please contact Inspector George Overturf of the Environmental Unit, at (213) 485-7543.

Very truly yours,

WILLIAM R. BAMATTRE
Fire Chief

Alfredo D. Gonzales

Alfredo G. Gonzales, Captain II
Commander, Environmental Unit

AGG:GO:amo:env4185

City of Los Angeles
DEPARTMENT OF FIRE
FIRE/LIFE SAFETY VIOLATION

160755

OCCUPANCY	DISTRICT	BLOCK NO.	MAP BOOK	PAGE	PARCEL	DATE
TO: (Name) Mr. Ray Vose	(Title)					FIRM OR D.B.A. Arco Facility No. 0191
ADDRESS: (Street) 4 Centerpointe Drive LPR4-460	(City)		(State)	(Zip Code)		PHONE
ADDRESS OF VIOLATION: (Street) 3401 Whittier Boulevard	(City)		(State)			(Zip Code)

COMPLY WITH REQUIREMENTS AS NOTED

- [X] A workplan must be submitted and approved prior to conducting any site assessment work. The workplan must describe all activities to be undertaken and appropriate protocols to be used.
- [X] Provide a site assessment certified by a California Registered Geologist or a California Certified Engineering Geologist. This report shall describe all assessment activities conducted. Address and justify any and all deviations from the site assessment workplan. The vertical and lateral extent of contamination shall be defined by providing soil borings and laboratory soil testing.
- [X] Compounds to be tested: BTEX, MTBE, DIP, ETBE, TAME, TBA, TPHG, TPHD.
- [X] If gasoline used historically or currently contains methanol or ethanol, the compounds are also to be tested. Using Analytical Method 8260B, 418.1, 8015M. EPA Method 5035 shall be applied for soil sample preparation and preservation.
- [X] All borings shall extend the minimum of 20 feet below the lowest level of non-detection.
 - [X] A remedial action plan must be submitted and approved prior to conducting any remediation.
 - [X] Secure the area from unauthorized entry.
Sec. (57.31.30) (57.31.38) (57.31.38.01) (37.31.47) (57.31.50).

ADDITIONAL INFORMATION ON	<input type="checkbox"/> BACK OF THIS FORM <input type="checkbox"/> ATTACHED SHEET(S)
---------------------------	--

FAILURE ON YOUR PART TO COMPLY WITH THIS NOTICE ON OR BEFORE January 4, 2002
WILL SUBJECT YOU TO PENALTIES PRESCRIBED BY SAID ORDINANCE. A REINSPECTION OF THE PREMISES
SHALL BE MADE FOR FULL COMPLIANCE.

RECEIVED BY

FOR ADDITIONAL INFORMATION PHONE: (213) 485-7543	DATE COMPLETED INSPECTOR	TITLE BY ORDER OF THE CHIEF ENGINEER AND GENERAL MANAGER BY George Overturf INSPECTOR SIGNATURE George W. Overturf	DRIVER'S LICENSE # ASSIGNMENT
---	------------------------------------	--	----------------------------------

RECEIVED APR 26 2004

CITY OF LOS ANGELES

BOARD OF
FIRE COMMISSIONERS

CORINA ALARCON
PRESIDENT

JAY H. GRODIN
VICE-PRESIDENT

ROLAND L. COLEMAN
LOUISE L. FRANKEL
TYRONE FREEMAN

BLANCA GOMEZ-REVELLES
EXECUTIVE ASSISTANT

CALIFORNIA



JAMES K. HAHN
MAYOR

DEPARTMENT OF FIRE

200 NORTH MAIN STREET
LOS ANGELES, CA 90012

WILLIAM R. BAMATTRE
FIRE CHIEF
(213) 485-6003
<http://www.lafd.org>

April 22, 2004



Mr. Ray Vose
Atlantic Richfield Company
4 Centerpointe Drive, LPR4-460
La Palma, CA 90623-1066

Facility ID# 10846
RE: Permit # 9894

Arco Station No. 0191
3401 Whittier Boulevard
Los Angeles, California

Dear Mr. Vose:

The Fire Department has reviewed the Site Assessment Work Plan Report and Request for Closure dated August 13, 2003, as submitted by SECOR International Incorporated.

We are unable to approve your report regarding this site until we receive the following information:

- The report did not follow the work plan submitted on January 04, 2002. All boring numbers were changed from the Work Plan.
- There are high concentrations of hydrocarbon in the soil as indicated by SB-4 and SB-5. Further remediation is required.
- The lateral extent of the contamination was not defined. Step out boring B-9 was not drilled as indicated in the Work Plan.

Using the Site Address and Permit Number shown at the top of this letter, please label the title of your pending report to be submitted as "**ADDITIONAL REQUIREMENTS - SITE ASSESSMENT REPORT**".

April 22, 2004
Mr. Vose
Page 2

In order to facilitate further processing of your pending report and other document submittals, please complete and return the attached "**Required Information Form**" with your future submittals, according to the instructions at the top of the form

Failure to provide this information will delay the processing of this site

If you require additional information from the Los Angeles Fire Department, please contact Case Reviewer Marcus Look of the Environmental Unit, at (213) 978-3685.

Very truly yours,

WILLIAM R. BAMATTRE
Fire Chief

Frank K. Comfort

Frank K. Comfort, Captain I
Commander, Environmental Unit

FKC:ML:kmr:3401whittier#9894air

cc: Rachel Handbury, SECOR International, Incorporated

REQUIRED INFORMATION FORM

INSTRUCTIONS: This form is to be filled out completely and must be the first page of any document, including all reports, submitted to the Los Angeles Fire Department (LAFD) Underground Storage Tank Unit (UST). To ensure accuracy this form must be completed on the computer or typed out. **Hand printing or writing will not be accepted.** The correct LAFD Facility I.D. No. and Division 5 Permit No. must be included for the submittal to be processed.

**** (SOME INFORMATION IS ALREADY PRE-ENTERED FOR YOUR CONVENIENCE)**

PLEASE NOTE THAT AN ACCOMPANYING INTRODUCTORY LETTER ON YOUR COMPANY LETTERHEAD CANNOT BE SUBSTITUTED FOR THIS FORM.

Today's Date: 4/22/2004

Mail to: City of Los Angeles Fire Department
Environmental Unit – Underground Storage Tanks
Attn: Marcus Look
200 North Main Street, Rm. 1700
Los Angeles, CA., 90012

Report Title

(Please select the applicable title from the drop down menu)

Addt'l Requirements - Site Assessment Report

LAFD Facility I.D. No. 10846

LAFD Division 5 Permit No. 9894

Site/Facility Name: ARCO Station No. 0191

Site Address: 3401 Whittier Boulevard

City/State/Zip: Los Angeles, CA, 90023

Site Facility Description: Gasoline Service Station

Tank Owner/Tank Operator/Responsible Party Contact Information

Contact Name and Title:

Contact Phone No.

Company Name:

Company Address:

City/State/Zip: Los Angeles, CA,

Consultant Information

Contact Name and Title:

Contact Phone No.

Company Name:

Company Address:

City/State/Zip: Los Angeles, CA,

CITY OF LOS ANGELES

BOARD OF
FIRE COMMISSIONERS

CALIFORNIA

DEPARTMENT OF FIRE



JAY H. GRODIN
PRESIDENT
ROLAND L. COLEMAN
VICE-PRESIDENT
LOUISE L. FRANKEL
TYRONE FREEMAN.

BLANCA GOMEZ-REVELLES
EXECUTIVE ASSISTANT

August 4, 2005

ANTONIO R. VILLARAIGOSA
MAYOR

200 NORTH MAIN STREET
LOS ANGELES, CA 90012

WILLIAM R. BAMATTRE
FIRE CHIEF
(213) 978-3838
<http://www.lafd.org>

Facility ID# 10846
RE: Permit# 9488

Roy Thun
Atlantic Richfield Company
4 Centerpointe Drive, LPR4-460.
La Palma, CA 90623-10660

Arco Station #00191
3401 Whittier Boulevard
Los Angeles, California

Dear Mr. Thun:

The Fire Department has reviewed the Proposed Additional Requirements Site Assessment Report dated August 2, 2004, as submitted by SECOR International, Incorporated.

We are unable to approve your report regarding this site until we receive the following information.

- A new work plan with new proposed scope of work.

Using the Site Address and Permit Number shown at the top of this letter, please label the title of your pending report to be submitted as "ADDITIONAL REQUIREMENTS – SITE ASSESSMENT REPORT."

In order to facilitate further processing of your pending report and other document submittals, please complete and return the attached "**Required Information Form**" with your future submittals, according to the instructions at the top of the form.

Failure to provide this information will delay the processing of this site.

If you require additional information from the Los Angeles Fire Department, please contact Inspector II Terrence Palmer of the Environmental Unit, at (213) 482-6532.

Very truly yours,

WILLIAM R. BAMATTRE
Fire Chief

Frank K. Comfort
Frank K. Comfort, Captain I
Commander, Environmental Unit

FKC:TP:amo:3401Whittier#9488air

cc: Cathy Sanford, Secor International, Incorporated

REQUIRED INFORMATION FORM

INSTRUCTIONS: This form is to be filled out completely and must be the first page of any document, including all reports, submitted to the Los Angeles Fire Department (LAFD) Underground Storage Tank Unit (UST). To ensure accuracy this form must be completed on the computer or typed out. **Hand printing or writing will not be accepted.** The correct LAFD Facility I.D. No. and Division 5 Permit No. must be included for the submittal to be processed.

**** (SOME INFORMATION IS ALREADY PRE-ENTERED FOR YOUR CONVENIENCE)**

PLEASE NOTE THAT AN ACCOMPANYING INTRODUCTORY LETTER ON YOUR COMPANY LETTERHEAD CANNOT BE SUBSTITUTED FOR THIS FORM.

Today's Date:

Mail to: City of Los Angeles Fire Department
Environmental Unit – Underground Storage Tanks
Attn:
200 North Main Street, Rm. 1700
Los Angeles, CA., 90012

Report Title

(Please select the applicable title from the drop down menu)

Workplan for Site Assessment

LAFD Facility I.D. No.

LAFD Division 5 Permit No.

Site/Facility Name:

Site Address:

City/State/Zip: , CA,

Site Facility Description:

Tank Owner/Tank Operator/Responsible Party Contact Information

Contact Name and Title:

Contact Phone No.

Company Name:

Company Address:

City/State/Zip: , CA,

Consultant Information

Contact Name and Title:

Contact Phone No.

Company Name:

Company Address:

City/State/Zip: , CA,

APPENDIX B

Table 1
Vapor Extraction System Operational Data
Arco Service Station No. 0191, Los Angeles, California

Operational Time (Hours)	Cumulative Operational Time (Hours)	Date, Cumulative Hours	Total Vacuum (inHg)	Flow Rate (cm ³ /sec)	TVH Concentration (Before Dilution) (ppmV) ^a	Laboratory Benzene Concentration (Before Dilution) (ppmV)	TVH Concentration (After Dilution) (ppmV)	Intermediate TVH Concentration (ppmV)	Effluent TVH Concentration (ppmV)	TVH Mass Recovered (lbs)	Cumulative TVH Mass Recovered (lbs)	Benzene Mass Recovered (lbs)	Cumulative Benzene Mass Recovered (lbs)
5/19/94 0	0	05-19-94, 0	4.3	142	2650	NA	620	0	0	0	0	0	0
5/26/94 5	5	05-26-94, 5	5.5	142	2200	NA	800	3	2	13	13	NA	NA
6/2/94 2	7	06-02-94, 7	3.5	148	2250	NA	800	8	6	62	75	NA	NA
6/9/94 27	34	06-09-94, 34	2.8	153	1500	NA	550	14	12	46	108	NA	NA
6/14/94 76	110	06-14-94, 110	2.5	153	1575	NA	660	21	17	133	179	NA	NA
6/16/94 48	158	06-16-94, 158	2.5	155	1601	NA	680	31	25	90	223	NA	NA
6/23/94 168	326	06-23-94, 326	2.5	155	1547	NA	802	48	37	289	379	NA	NA
6/28/94 128	454	06-28-94, 454	2.5	158	1625	NA	832	115	78	204	493	NA	NA
8/1/94 44	498	08-01-94, 498	2.2	137	1144	NA	665	57	43	345	549	NA	NA
8/6/94 124	622	08-06-94, 622	2.2	45	2280	NA	1170	599	150	333	678	NA	NA
8/19/94 73	695	08-19-94, 695	2.1	95	2710	NA	1460	1092	554	516	849	NA	NA
9/2/94 3	698	09-02-94, 698	2.5	96	2820	NA	1575	0	0	340	856	NA	NA
9/9/94 168	866	09-09-94, 866	2.0	95	2600	NA	1452	29	11	837	1177	NA	NA
9/14/94 119	985	09-14-94, 985	2.3	93	4200	NA	1550	85	41	632	1469	NA	NA
9/21/94 170	1155	09-21-94, 1155	2.5	95	4060	NA	1326	255	155	1333	1965	NA	NA
"2/16/95 0	0	02-16-95, 0	7	99	5000 (4900)	(52)	5000	NA	0	0	1965	0.0	0.0
2/28/95 120	120	02-28-95, 120	4	71	2200	NA	2200	NA	30	552.3	2517.3	0.4	0.4
3/7/95 168	288	03-07-95, 288	12	61	1140	NA	1140	NA	2	278.5	2795.7	NA	0.4
3/21/95 261	549	03-21-95, 549	23	67	1936	NA	1936	NA	1	386.4	3182.1	NA	0.4
3/28/95 134	683	03-28-95, 683	23	76	2075	NA	2075	NA	1	269.0	3471.1	NA	0.4
4/5/95 164	847	04-05-95, 847	23	79	2268	NA	2268	NA	1.4	415.1	3886.2	NA	0.4
4/12/95 140	987	04-12-95, 987	12	54	1416 (3100)	(46)	1416	NA	20	257.9	4144.1	1.4	1.8
4/18/95 144	1131	04-18-95, 1131	28	51	1552	NA	1552	NA	1	386.7	4312.8	1.6	3.5
4/26/95 189	1320	04-26-95, 1320	27	51	NA (2800)	(45)	NA	NA	10.5	2.9	4788.8	0.015	11.0
5/4/95 192	1512	05-04-95, 1512	22	90	495 (2900)	(50)	495	NA	11	100.8	4638.6	2.8	9.1
5/11/95 165	1677	05-11-95, 1677	14	70	989	NA	989	NA	21	147.3	4785.9	1.8	10.9
1/8/96 2	1679	01-08-96, 1679	19	62	1890 (2400)	(36)	1890	NA	19	809.2	6914.4	3.2	15.3
1/17/96 108	1787	01-17-96, 1787	29	66	2000	NA	2000	NA	10.2	202.2	4990.9	1.2	12.1
1/22/96 125	1912	01-22-96, 1912	24	97	2850	NA	2850	NA	18	371.5	5362.5	NA	12.1
1/29/96 168	208C	01-29-96, 2080	20	104	3000	NA	3000	NA	48	742.7	6105.2	NA	12.1
2/6/96 188	2269	02-06-96, 2268	21	112	2300 (3200)	(67)	2300	NA	20	590.4	7504.9	2.6	17.9
2/12/96 145	2413	02-12-96, 2413	23	116	2450	NA	2450	NA	35	851.0	8355.9	NA	17.9
2/20/96 191	2641	02-20-96, 2604	33	115	2880	NA	2880	NA	30	777.8	9133.7	NA	17.9
2/26/96 143	2747	02-26-96, 2747	47	121	3450	NA	3450	NA	30	777.8	9133.7	NA	17.9

Table 1 (Continued)
Vapor Extraction System Operational Data
Arco Service Station No. 0191, Los Angeles, California

Operational Time (Hours)	Cumulative Operational Time (Hours)	Date, Cumulative Hours	Total Vacuum (in. wc)	Flow Rate (cfm)	TVH Concentration (Before Dilution) (ppmv)*	Laboratory Benzene Concentration (Before Dilution) (ppmv)	TVH Concentration (After Dilution) (ppmv)	Intermediate TVH Concentration (ppmv)	Effluent TVH Concentration (ppmv)	TVH Mass Recovered (lbs)	Benzene Mass Recovered (lbs)	Cumulative Benzene Mass Recovered (lbs)
3/6/96	21.4	2961	03-06-96, 2961	47	121	7300	NA	49	2093.2	11226.9	NA	17.9
3/20/96	26.3	3222 ^{..}	03-20-96, 3224	42	118	1700 (2000)	(28)	1700	NA	18	2127.0	13354.0
3/25/96	11.8	3342	03-25-96, 3342	44	118	1500	NA	1500	NA	20	335.1	13689.0
4/1/96	167	3508	04-01-96, 3509	43	122	1752	NA	1752	NA	10	490.1	14179.1
4/8/96	164	3673	04-08-96, 3673	51	124	2850	NA	2850	NA	39	698.1	14877.2
4/15/96	170	3843	04-15-96, 3843	40	122	1450	NA	1450	NA	10	676.1	15553.3
5/1/96	15.6	3999	05-01-96, 3999	17	93	1250	NA	1250	NA	14	340.5	15893.8
5/8/96	167	4166	05-08-96, 4166	48	121	1400	NA	1400	NA	13	356.1	16249.9
5/14/96	14.2	4308	05-14-96, 4308	50	122	2300	NA	2300	NA	10	480.0	16729.9
5/21/96	165	4473	05-21-96, 4473	55	123	1650 (1310)	(17)	1650	NA	13	600.4	17330.3
5/28/96	19.0	4653	05-29-96, 4663	58	122	1350	NA	1350	NA	18	525.1	17855.3
6/5/96	16.0	4823	06-05-96, 4823	36	124	1950	NA	1950	NA	22	488.4	18343.7
6/10/96	12.4	4947	06-10-96, 4947	53	127	1950	NA	1950	NA	12	456.4	18800.1
6/17/96	16.6	5113	06-17-96, 5113	52	129	1400	NA	1400	NA	13	535.3	19335.4
6/24/96	26	5139	06-24-96, 5139	26	106	230 (590)	(2.1)	230	NA	10	37.4	19372.8
7/1/96	12.1	5260	07-01-96, 5260	31	113	530	NA	530	NA	10	75.7	19448.5
9/20/96	17.4	5434	09-20-96, 5434	13	63	209 (990)	(1.6)	209	NA	4.3	85.1	19533.6
9/27/96	82	5516	09-27-96, 5516	23	95	241	NA	241	NA	13	21.9	19555.5
10/2/96	12.4	5640	10-02-96, 5640	31	117	834	NA	834	NA	10	106.3	19661.8
10/10/96	16.6	5806	10-10-96, 5806	34	120	329 (1196)	(11.0)	329	NA	18	172.0	19833.8
10/17/96	19.4	6000	10-17-96, 6000	35	120	843	NA	843	NA	16	205.2	20039.0
10/22/96	11.9	6119	10-22-96, 6119	43	123	750	NA	750	NA	13	173.2	20212.2
10/31/96	21.6	6335	10-31-96, 6335	45	127	689 (212)	(2.0)	689	NA	10	292.2	20504.4
										0.2	29.9	

* Concentration values shown in parenthesis represent laboratory results

.. Represents startup of Internal Combustion Engine

- 1) PID calibrated to 100 ppmv Isobutylene
- 2) TVH Mass Recovery Calculation:

$$\text{lbs. TVH} = \frac{(\text{ppmV})(60\text{min/hr})(\text{hrs})(\text{SCFM})(95 \text{ lb/lb-mole})}{(1 \times 10^6)(379 \text{ ft}^3/\text{lb-mole})}$$

ppmV = concentration in "Parts per Million by Volume" TVH as gasoline

SCFM = flow rate in Standard Cubic Feet per Minute

95 lb/lb-mole = average molar weight of gasoline

78 lb/lb-mole = average molar weight of benzene (use when calculating lbs. benzene)
379 ft³/lb-mole = molar gasoline volume at 60°F and 1 atmosphere

Table 2
Vapor Extraction System Operational Data
Arco Service Station No. 0191
Los Angeles, California

Date	Well VW-1			Well VW-2			Well VW-3			Well VW-4		
	% Open	Vacuum	TVH Concentration*									
2/16/95	50	NA	180	100	NA	1200	50	NA	300	100	NA	2500
2/20/95	50	NA	120	100	NA	1200	50	NA	180	100	NA	7600
3/7/95	10	9	55	100	11	553	10	2	283	100	11	>2500
3/21/95	10	1	113	100	15	1150	10	1	189	100	16	>2500
3/28/95	10	1	116	100	15	1230	10	1	196	100	16	>2500
4/5/95	0	NA	NA	50	20	488	0	NA	NA	100	22	2236
4/12/95	0	NA	NA	100	NA	969	0	NA	NA	100	NA	2416
4/18/95	0	NA	NA	100	21	149	0	NA	NA	100	19	1834
4/26/95	0	NA	NA	100	NA	NA	0	NA	NA	100	NA	NA
5/4/95	0	NA	NA	100	NA	137	0	NA	NA	100	NA	510
5/11/95	0	NA	NA	100	NA	90	0	NA	NA	100	NA	700
1/8/96	0	NA	NA	100	18	1300	0	NA	NA	100	18	1500
1/17/96	0	NA	NA	100	22	1250	0	NA	NA	100	20	2150
1/22/96	0	NA	NA	100	22	872	0	NA	NA	100	22	3000
1/29/96	0	NA	NA	100	18	304	0	NA	NA	100	18	2800
2/6/96	0	NA	NA	100	NA	410	0	NA	NA	100	NA	2450
2/12/96	0	NA	NA	100	18	264	0	NA	NA	100	18	2968
2/20/96	0	NA	NA	100	21	280	0	NA	NA	100	21	3000
2/26/96	0	NA	NA	100	34	605	0	NA	NA	100	34	3000
3/6/96	0	NA	NA	100	34	1400	0	NA	NA	100	32	10000
3/20/96	0	NA	NA	100	32	300	0	NA	NA	100	32	1900
3/25/96	0	NA	NA	100	22	400	0	NA	NA	100	22	1300
4/1/96	0	NA	NA	100	34	450	0	NA	NA	100	34	1800
4/6/96	0	NA	NA	100	32	110	0	NA	NA	100	36	3000
4/15/96	0	NA	NA	100	32	750	0	NA	NA	100	32	1300
5/1/96	0	NA	NA	100	15	140	0	NA	NA	100	15	1150
5/8/96	0	NA	NA	100	35	200	0	NA	NA	100	35	1150
5/14/96	0	NA	NA	100	25	208	0	NA	NA	100	35	2800
5/21/96	0	NA	NA	100	36	320	0	NA	NA	100	30	2000
5/29/96	0	NA	NA	100	30	500	0	NA	NA	100	36	930
6/5/96	0	NA	NA	100	38	205	0	NA	NA	100	38	920
7/1/96	0	NA	NA	100	20	39	0	NA	NA	100	25	1400
9/20/96	0	NA	NA	100	6	48	0	NA	NA	100	20	430
9/27/96	0	NA	NA	100	16	61	0	NA	NA	100	6	295
10/2/96	0	NA	NA	100	20	608	0	NA	NA	100	16	310
										100	20	210

Table 2 (Continued)
Vapor Extraction System Operational Data
Arco Service Station No. 0191
Los Angeles, California

Date	Well VW-1			Well VW-2			Well VW-3			Well VW-4		
	% Open	Vacuum	TVH Concentration*									
10/10/96	0	NA	NA	100	22	105	0	NA	NA	100	22	310
10/17/96	0	NA	NA	100	22	290	0	NA	NA	100	21	620
10/22/96	0	NA	NA	100	25	250	0	NA	NA	100	25	820
10/31/96	0	NA	NA	100	25	306	0	NA	NA	100	25	580

* PID calibrated to 100 ppmv Isobutylene

Figure 1
TVH Concentrations* versus Operational Time
Arco SS#0191, Los Angeles, CA

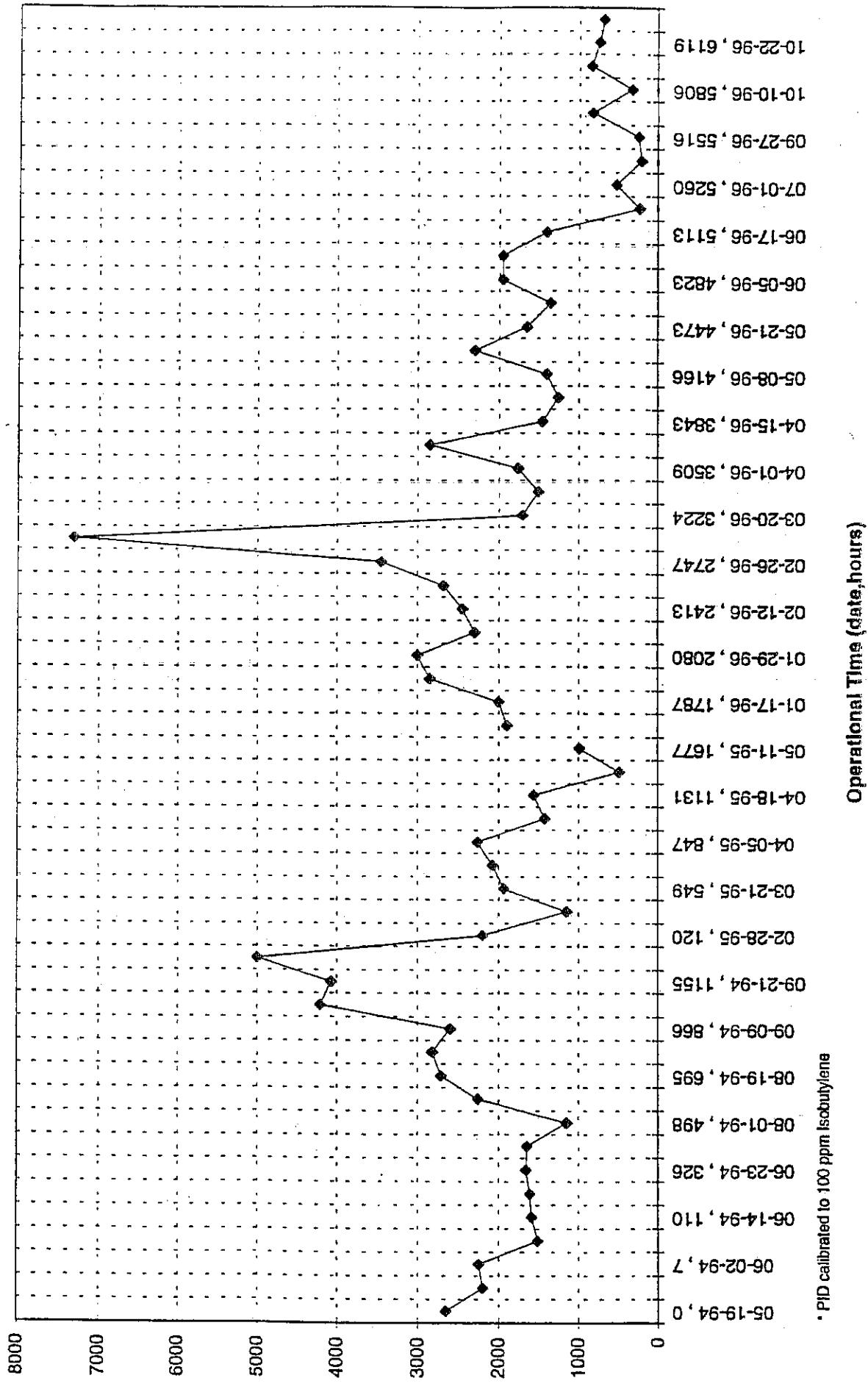


Figure 2
Benzene Concentrations versus Operational Time
Arco SS #0191, Los Angeles, CA

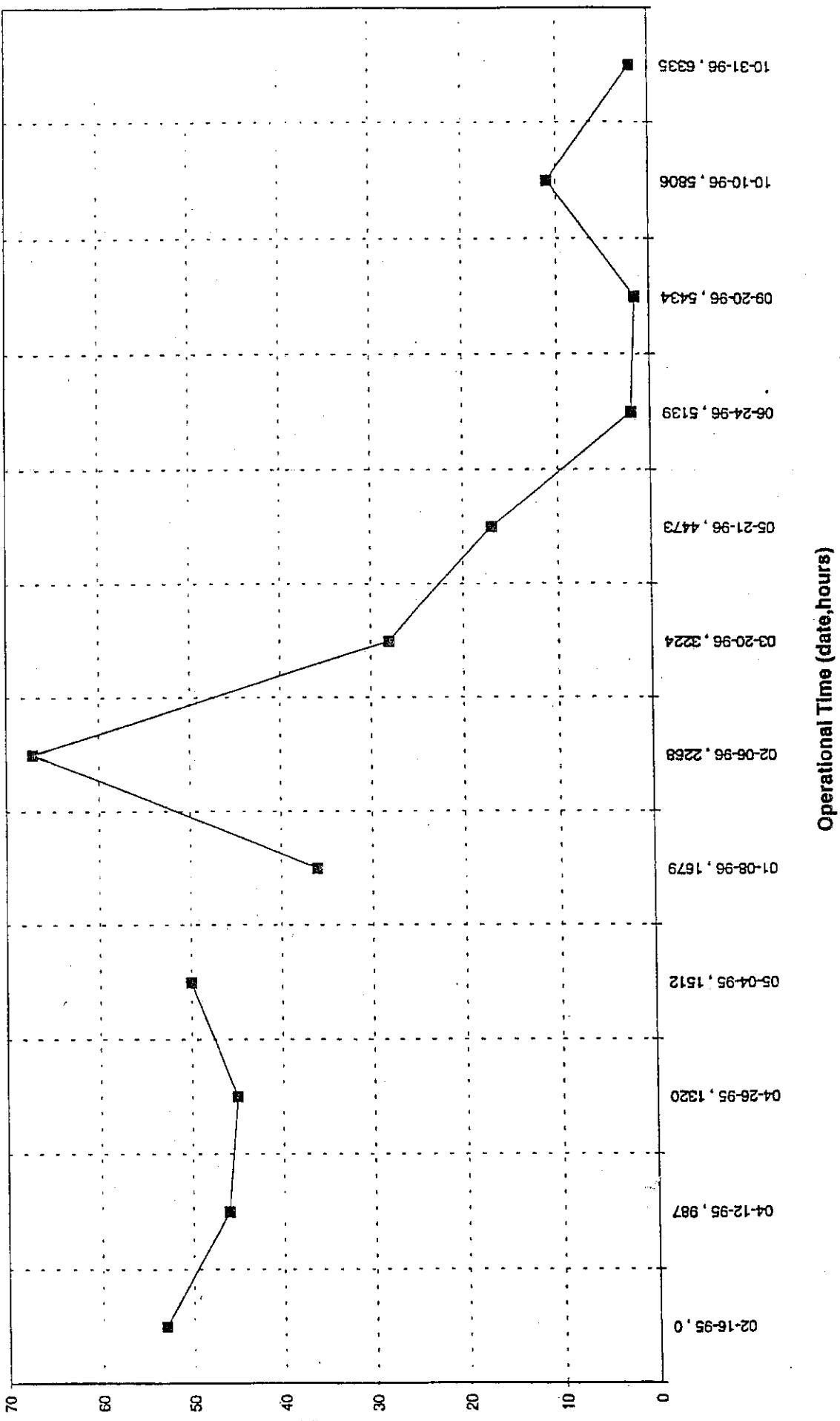
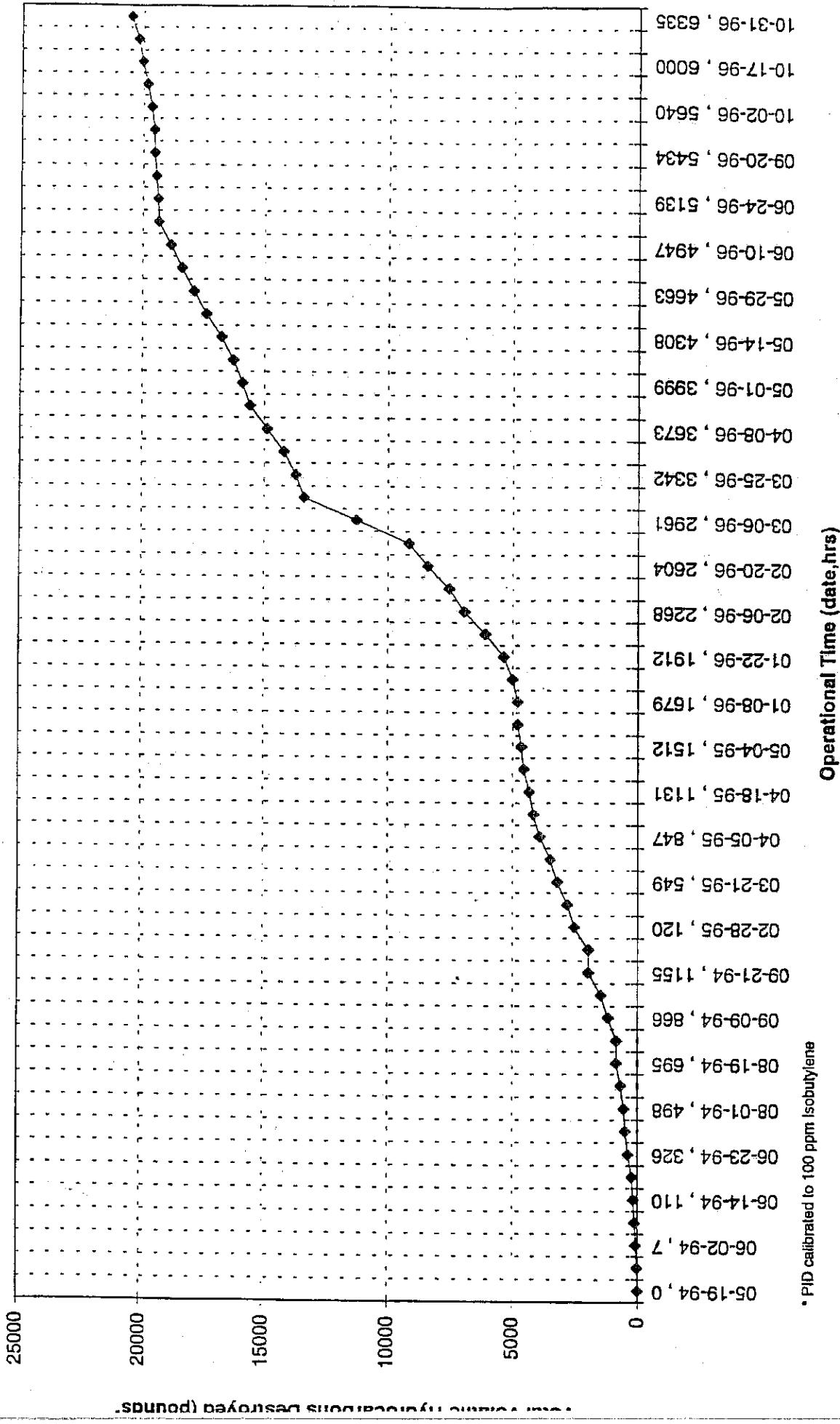


Figure 3
TVH Mass Destroyed* versus Operational Time
Arco SS#0191, Los Angeles, CA



APPENDIX C

SECOR INTERNATIONAL INCORPORATED

STANDARD PROCEDURE FOR SOIL SAMPLING SPLIT SPOON SAMPLING

The pre-cleaned split spoon sampler lined with three 6-inch long brass or stainless steel tubes is driven 18 inches into the underlying soils at the desired sample depth interval. The sampler is driven by repeatedly dropping a 140-pound hammer a free fall distance of 30 inches. The number of blows (blow count) to advance the sampler for each six-inch drive length are recorded on the field logs. Once the sampler is driven the full 18-inch drive length or the sampler has met refusal (typically 50 blows per six inches), the sampler is retrieved.

Of the three sample tubes, the bottom sample is generally selected for laboratory analysis. The sample is carefully packaged for chemical analysis by capping each end of the sample with a Teflon sheet followed by a tight-fitting plastic cap and sealing the cap with non-VOC, self-adhering silicon tape and /or placed in EnCore™ 5 gram samplers. A label is affixed to the sample indicating the sample identification number, borehole number, sampling depth, sample collection date and time, the sampler's name, job number, etc. The sample is then annotated on a chain-of-custody form and placed in an ice-filled cooler for transport to the laboratory.

The remaining soil samples are used for soil classification and field evaluation of headspace volatile organic vapors, where applicable, using a photoionization or flame ionization detector calibrated to a calibration gas (typically isobutylene or hexane). VOC vapor concentrations are recorded on the boring logs. A physical description of the encountered soil characteristics (i.e. moisture content, consistency, odor, color, etc.) and soil type as a function of depth are indicated on the boring logs. In addition, the sample recovery and sampler penetration are also noted on the boring logs. The sampled soils are classified in accordance with the Unified Soil Classification System (USCS).

SECOR INTERNATIONAL INCORPORATED

STANDARD PROCEDURE FOR HOLLOW STEM AUGER DRILLING

Prior to drilling, all boring locations are marked with white paint or other discernible marking and cleared for underground utilities through Underground Service Alert (USA). In addition, the first five feet of each borehole are drilled with a hand auger or posthole digger to evaluate the presence of underground structures or utilities.

Once predrilling efforts to identify subsurface structures are complete, precleaned hollow stem augers (typically 8 to 10 inches in diameter) are advanced using a rotary drill rig for the purpose of collecting samples and evaluating subsurface conditions. Upon completion of drilling and sampling the augers are retracted and the borehole is filled with concrete, bentonite grout, hydrated bentonite chips or pellets as required by the regulatory agency. In areas where the borehole penetrates asphalt or concrete, the borehole is capped with an equivalent thickness of asphalt or concrete patch to match finish grade.

During the drilling process a physical description of the encountered soil characteristics (i.e. moisture content, consistency, odor, color, etc.), drilling difficulty and soil type as a function of depth are described on boring logs. The soil cuttings are classified in accordance with the Unified Soil Classification System (USCS).

All soil cuttings are temporarily stored on-site in 55-gallon DOT approved drums pending laboratory analysis, waste profiling and proper disposal. A label is affixed to the drums indicating the contents of the drum, suspected contaminants, date of drilling, borehole number, and depth interval from which the contents were generated.

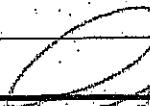
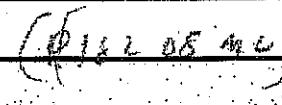
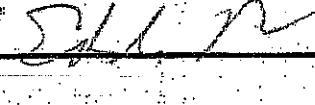
SECOR INTERNATIONAL INCORPORATED

**STANDARD PROCEDURE FOR
EQUIPMENT DECONTAMINATION**

All equipment that could potentially contact subsurface media and compromise the integrity of the samples is carefully decontaminated prior to drilling and sampling. Drill augers and other large pieces of equipment are decontaminated using high pressure hot water spray. Samplers, groundwater pumps, liners and other equipment are decontaminated in an Alconox scrub solution and double rinsed in clean tap water rinse followed by a final distilled water rinse.

The rinsate and other wastewater are contained in DOT-approved drums or bins, labeled (to identify the contents, generation date and project) and stored on-site pending waste profiling and disposal.

APPENDIX D

Manifest		TPS Technologies Soil Recycling Non-Hazardous Soils				Manifest		
Generator and/or Consultant	Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPS:	Load #		
	17.3.04	PEST	48872	07	24022	001		
	Generator's Name and Billing Address: BP WEST COAST PRODUCTS LLC P.O. BOX 80249 RANCHO SANTA MARGARITA, CA 92688			Generator's Phone #:	Generator's US EPA ID No.:			
				Person to Contact:				
				FAX#:	Customer Account Number with TPS:			
	Consultant's Name and Billing Address:			Consultant's Phone #:				
				Person to Contact:				
				FAX#:	Customer Account Number with TPS:			
	Generation Site (Transport from): (name & address) ARCO #0151 3401 EAST WHITTIER BLVD. LOS ANGELES, CA 90023			Site Phone #:	BTEX Levels			
				Person to Contact:	TPH Levels			
			FAX#:	AVG. Levels				
Designated Facility (Transport to): (name & address) TPS TECHNOLOGIES, INC. 12328 HIBISCUS AVENUE ADELANTO, CA 92301			Facility Phone #:	Facility Permit Numbers				
			500-862-8001					
			Person to Contact:					
			DELENA JEFFREY					
			FAX#:					
			760-246-8004					
Transporter Name and Mailing Address: BELSHIRE ENVIRONMENTAL 25971 TOWNE CENTRE DRIVE LAKE FOREST, CA 92610			Transporter's Phone #:	Transporter's US EPA ID No.:				
			745-460-5200	CAD923504601				
			Person to Contact:	Transporter's DOT No.:				
			Larry Moonhart	450647				
			FAX#:	Customer Account Number with TPS:				
			745-460-5210	1000193				
Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight	
Sand <input type="checkbox"/> Organic <input type="checkbox"/> Clay <input type="checkbox"/> Other <input type="checkbox"/>	0-10% <input type="checkbox"/> 10-20% <input type="checkbox"/> 20% - over <input type="checkbox"/>	Gas <input type="checkbox"/> Diesel <input type="checkbox"/> Other <input type="checkbox"/>	7dms		8040	4140	3900	
Sand <input type="checkbox"/> Organic <input type="checkbox"/> Clay <input type="checkbox"/> Other <input type="checkbox"/>	0-10% <input type="checkbox"/> 10-20% <input type="checkbox"/> 20% - over <input type="checkbox"/>	Gas <input type="checkbox"/> Diesel <input type="checkbox"/> Other <input type="checkbox"/>					1.95	
List any exception to items listed above: 117246								
Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.								
Print or Type Name: Generator <input type="checkbox"/> Consultant <input type="checkbox"/>				Signature and date: 		Month 12	Day 3	Year 04
Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.								
Print or Type Name: El Rinaldi 				Signature and date: 		Month 12	Day 3	Year 04
Discrepancies: FAC# 0191 ID# 20718								
Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:								
Print or Type Name: D. JEFFREY / J. PROVANSON				Signature and date: 		Month 12	Day 29	Year 04
Please sign in ink only								

TRANSPORTER COPY

APPENDIX E

SECOR

International Incorporated

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Well/Boring Number:		
J. Mason/N. Alkov 11/10/04		CAL PAC	Atlantic Richfield Company Arco Facility 00191	California Split Spoon HSA Drilling	B-9		
See "Legend to Logs" for sampling method, classifications and laboratory testing methods		Boring Diam.(in.): 8	Surface Elevation (feet):	Groundwater Depth (feet):	Total Depth (feet): 80.0	Drive Weight (lbs.): 140	Drop Distance (in.): 40
Soil Boring	Depth (feet)	Sample Interval	Blow Counts 6"	Description	PID Reading (ppm)	Laboratory Analyses	Sample ID
Concrete.				8" asphalt. Aggregate.			
	5			(ML) Silt with Sand: (10R 4/4) weak red, 10-15% fine grained sand, low plasticity, stiff, moist.	172	8015 8260B	B-9-5
	10	20 25 36		(ML) Silt with Sand: (5YR 4/2) reddish gray, 15% medium to fine grained sand, hard, moist.	98.6	8015 8260B	B-9-10
	15	17 23 30		(SM) Silty Sand: (5YR 3/2) dark reddish brown, fine grained, 20% silt, very dense, moist.	1348	8015 8260B	B-9-15
Hydrated Bentonite chips	20	25 27 36		(ML) Silt: (5YR 3/3) reddish brown, medium plasticity, hard, moist.	9999	8015 8260B	B-9-20
	25			(SW-SM) Well Graded Sand with Silt and Gravel: (5YR 4/2) dark reddish gray, gravel is coarse grained, medium to fine grained sand, very dense, moist.	9999	8015 8260B	B-9-25
	30	10 12 20		(SP) Poorly Graded Sand with Silt: (10YR 3/4) dusky red, fine grained sand, 10% silt, dense, moist.	9999	8015 8260B	B-9-30
	35	10 14 19		(ML) Silt with Sand: (10YR 3/6) dark red, 15% fine grained sand, low plasticity, hard, moist.	879	8015 8260B	B-9-35
	40						

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown on the log may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

Project No. 14BP.00191.01.1130 Date December 2004

Borehole Log

A00191_B-9.GPJ
LOG OF BOREHOLE

Figure

B-9 (sheet 1 of 2)

SECOR

International Incorporated

International Incorporated

Logged By:	Date Drilled:	Drilling Contractor	Project Name:	Method/Equipment:	Well/Boring Number:		
J. Mason/N. Alkoy 11/10/04		CAL PAC	Atlantic Richfield Company Arco Facility 00191	California Split Spoon HSA Drilling	B-9		
See "Legend to Logs" for sampling method, classifications and laboratory testing methods		Boring Diam.(in.): 8	Surface Elevation (feet):	Groundwater Depth (feet):	Total Depth (feet): 80.0	Drive Weight (lbs.): 140	Drop Distance (in.): 40
Soil Boring	Depth (feet)	Sample Interval	Blow Counts 6"	Description	PID Reading (ppm)	Laboratory Analyses	Sample ID
Hydrated Bentonite chips	7 26 32	7 26 32		(SW) Well Graded Sand with Gravel: (10R 4/6) red, medium grained gravels, coarse to medium grained sand, very dense, moist.	181	8015 8260B	B-9-40
	45	13 15 20		(ML) Silt with Sand: (10R 3/2) dusky red, 20% fine grained sand, hard, moist.	170	8015 8260B	B-9-45
	50	8 32 40		Same as above.	566	8015 8260B	B-9-50
	55	100/6		(SW) Well Graded Sand with Gravel: (5YR 5/4) reddish brown, 20% coarse to medium grained gravel, fine to medium grained sand, very dense, moist.	170	8015 8260B	B-9-55
	60	50 50/3		Same as above.	65.9	8015 8260B	B-9-60
	65	27 50		(SW) Well Graded Sand with Gravel: (5YR 5/4) reddish brown, 45% coarse to medium grained gravel, medium to coarse grained sand, very dense, moist.	131	8015 8260B	B-9-65
	70	75/6		Same as above.	224	8015 8260B	B-9-70
	75	62/6			224	8015 8260B	B-9-75
	80	11 14 31		(SM) Silty Sand: (5YR 4/6) reddish brown, 10% coarse grained gravel, 15% silt, medium to fine grained sand, dense, moist.	257		
						8015 8260B	B-9-80

The substrata descriptions above are generalized representations and based upon visual/manual classification of cuttings and/or samples obtained during drilling. Predominant material types shown on the log may contain different materials and the change from one predominant material type to another could be different than indicated. Descriptions on this log apply only at the specific location at the time of drilling and may not be representative of subsurface conditions at other locations or times.

Project No. 14BP.00191.01.1130 Date December 2004

Borehole Log

A00191_B-9.GPJ
LOG OF BOREHOLE

Figure

B-9 (sheet 2 of 2)

APPENDIX F



LABORATORY REPORT

Prepared For: SECOR International, Inc.-Orange County
11085 Knott Ave, Suite B
Cypress, CA 90630
Attention: Cathy Sanford

Project: ARCO 0191, Los Angeles

Sampled: 11/10/04
Received: 11/11/04
Issued: 11/22/04 15:30

NELAP #01108CA CA ELAP #1197 CSDLAC #10117

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of Del Mar Analytical and its client. This report shall not be reproduced, except in full, without written permission from Del Mar Analytical. The Chain(s) of Custody, 2 pages, are included and are an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 4°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the Del Mar Analytical Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: Results that fall between the MDL and RL are 'J' flagged.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
INK0967-01	B-9-5	Soil
INK0967-02	B-9-10	Soil
INK0967-03	B-9-15	Soil
INK0967-04	B-9-20	Soil
INK0967-05	B-9-25	Soil
INK0967-06	B-9-30	Soil
INK0967-07	B-9-35	Soil
INK0967-08	B-9-40	Soil
INK0967-09	B-9-45	Soil
INK0967-10	B-9-50	Soil
INK0967-11	B-9-55	Soil



Del Mar Analytical

SECOR International, Inc.-Orange County
11085 Knott Ave, Suite B
Cypress, CA 90630
Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles
Report Number: INK0967

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Sampled: 11/10/04
Received: 11/11/04

LABORATORY ID	CLIENT ID	MATRIX
INK0967-12	B-9-60	Soil
INK0967-13	B-9-65	Soil
INK0967-14	B-9-70	Soil
INK0967-15	B-9-75	Soil
INK0967-17	B-9-80	Soil

Reviewed By:

Del Mar Analytical, Irvine
Wendy Kirkeeng
Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

VOLATILE FUEL HYDROCARBONS (EPA 5035B/CADHS Mod. 8015)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Date Qualifiers
Sample ID: INK0967-01 (B-9-5 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.13	1.0	0.17 106 %	0.935	11/15/04	11/15/04	J,DX
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-02 (B-9-10 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.13	1.0	ND 86 %	0.924	11/15/04	11/15/04	
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-03 (B-9-15 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.13	1.0	ND 93 %	0.956	11/15/04	11/15/04	
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-04 (B-9-20 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15111	59	450	970 205 %	451	11/15/04	11/16/04	AZ
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-05 (B-9-25 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.13	1.0	0.32 111 %	1.01	11/15/04	11/15/04	J,DX
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-06 (B-9-30 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15111	290	2200	5900 1030 %	2230	11/15/04	11/19/04	AX
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-07 (B-9-35 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.13	1.0	0.64 99 %	1.11	11/15/04	11/15/04	J,DX
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-08 (B-9-40 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.12	0.90	0.22 83 %	0.901	11/15/04	11/15/04	J,DX
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

VOLATILE FUEL HYDROCARBONS (EPA 5035B/CADHS Mod. 8015)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Date Qualifiers
Sample ID: INK0967-09 (B-9-45 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.11	0.84	0.21	0.836	11/15/04	11/15/04	J,DX
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-10 (B-9-50 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.11	0.84	0.19	0.838	11/15/04	11/15/04	J,DX
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-11 (B-9-55 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.15	1.2	ND	1.17	11/15/04	11/15/04	
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-12 (B-9-60 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.13	1.0	ND	1.03	11/15/04	11/15/04	
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-13 (B-9-65 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.16	1.2	ND	1.19	11/15/04	11/15/04	
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-14 (B-9-70 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.13	1.0	ND	1.07	11/15/04	11/15/04	
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-15 (B-9-75 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.17	1.3	ND	1.32	11/15/04	11/16/04	
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									
Sample ID: INK0967-17 (B-9-80 - Soil)									
Reporting Units: mg/kg									
GRO (C4 - C12)	EPA 8015B	4K15030	0.13	1.0	ND	0.998	11/15/04	11/16/04	
<i>Surrogate: 4-BFB (FID) (65-135%)</i>									

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: INK0967-01 (B-9-5 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K15024	0.00050	0.0020	ND	0.945	11/15/04	11/16/04
Ethylbenzene	EPA 8260B	4K15024	0.00051	0.0020	ND	0.945	11/15/04	11/16/04
Toluene	EPA 8260B	4K15024	0.00091	0.0020	ND	0.945	11/15/04	11/16/04
o-Xylene	EPA 8260B	4K15024	0.00047	0.0020	ND	0.945	11/15/04	11/16/04
m,p-Xylenes	EPA 8260B	4K15024	0.00075	0.0020	ND	0.945	11/15/04	11/16/04
Xylenes, Total	EPA 8260B	4K15024	0.00075	0.0040	ND	0.945	11/15/04	11/16/04
Di-isopropyl Ether (DIPE)	EPA 8260B	4K15024	0.00035	0.0050	ND	0.945	11/15/04	11/16/04
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K15024	0.00058	0.0050	ND	0.945	11/15/04	11/16/04
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K15024	0.00064	0.0050	ND	0.945	11/15/04	11/16/04
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K15024	0.0010	0.0050	ND	0.945	11/15/04	11/16/04
tert-Butanol (TBA)	EPA 8260B	4K15024	0.0047	0.050	ND	0.945	11/15/04	11/16/04
Ethanol	EPA 8260B	4K15024	0.055	0.30	ND	0.945	11/15/04	11/16/04

Surrogate: Dibromofluoromethane (80-125%)

101 %

Surrogate: Toluene-d8 (80-120%)

106 %

Surrogate: 4-Bromofluorobenzene (80-120%)

95 %

Sample ID: INK0967-02 (B-9-10 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K15024	0.00050	0.0020	ND	0.943	11/15/04	11/16/04
Ethylbenzene	EPA 8260B	4K15024	0.00051	0.0020	ND	0.943	11/15/04	11/16/04
Toluene	EPA 8260B	4K15024	0.00091	0.0020	ND	0.943	11/15/04	11/16/04
o-Xylene	EPA 8260B	4K15024	0.00047	0.0020	ND	0.943	11/15/04	11/16/04
m,p-Xylenes	EPA 8260B	4K15024	0.00075	0.0020	ND	0.943	11/15/04	11/16/04
Xylenes, Total	EPA 8260B	4K15024	0.00075	0.0040	ND	0.943	11/15/04	11/16/04
Di-isopropyl Ether (DIPE)	EPA 8260B	4K15024	0.00035	0.0050	ND	0.943	11/15/04	11/16/04
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K15024	0.00058	0.0050	ND	0.943	11/15/04	11/16/04
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K15024	0.00064	0.0050	ND	0.943	11/15/04	11/16/04
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K15024	0.0010	0.0050	ND	0.943	11/15/04	11/16/04
tert-Butanol (TBA)	EPA 8260B	4K15024	0.0047	0.050	ND	0.943	11/15/04	11/16/04
Ethanol	EPA 8260B	4K15024	0.055	0.30	ND	0.943	11/15/04	11/16/04

Surrogate: Dibromofluoromethane (80-125%)

99 %

Surrogate: Toluene-d8 (80-120%)

107 %

Surrogate: 4-Bromofluorobenzene (80-120%)

95 %

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: INK0967-03 (B-9-15 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K15024	0.00050	0.0020	ND	1.04	11/15/04	11/16/04	
Ethylbenzene	EPA 8260B	4K15024	0.00051	0.0020	ND	1.04	11/15/04	11/16/04	
Toluene	EPA 8260B	4K15024	0.00091	0.0020	ND	1.04	11/15/04	11/16/04	
o-Xylene	EPA 8260B	4K15024	0.00047	0.0020	ND	1.04	11/15/04	11/16/04	
m,p-Xylenes	EPA 8260B	4K15024	0.00075	0.0020	ND	1.04	11/15/04	11/16/04	
Xylenes, Total	EPA 8260B	4K15024	0.00075	0.0040	ND	1.04	11/15/04	11/16/04	
Di-isopropyl Ether (DIPE)	EPA 8260B	4K15024	0.00035	0.0050	ND	1.04	11/15/04	11/16/04	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K15024	0.00058	0.0050	ND	1.04	11/15/04	11/16/04	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K15024	0.00064	0.0050	ND	1.04	11/15/04	11/16/04	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K15024	0.0010	0.0050	ND	1.04	11/15/04	11/16/04	
tert-Butanol (TBA)	EPA 8260B	4K15024	0.0047	0.050	0.034	1.04	11/15/04	11/16/04	J,DX
Ethanol	EPA 8260B	4K15024	0.055	0.30	ND	1.04	11/15/04	11/16/04	
<i>Surrogate: Dibromofluoromethane (80-125%)</i>							102 %		
<i>Surrogate: Toluene-d8 (80-120%)</i>							106 %		
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>							95 %		

Sample ID: INK0967-04 (B-9-20 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K16091	0.12	0.36	1.3	364	11/16/04	11/17/04	
Ethylbenzene	EPA 8260B	4K16091	0.098	0.36	18	364	11/16/04	11/17/04	
Toluene	EPA 8260B	4K16091	0.12	0.36	32	364	11/16/04	11/17/04	
o-Xylene	EPA 8260B	4K16091	0.10	0.36	24	364	11/16/04	11/17/04	
m,p-Xylenes	EPA 8260B	4K16091	0.19	0.36	61	364	11/16/04	11/17/04	
Xylenes, Total	EPA 8260B	4K16091	0.19	0.73	86	364	11/16/04	11/17/04	
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16091	0.19	0.91	ND	364	11/16/04	11/17/04	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16091	0.24	0.91	ND	364	11/16/04	11/17/04	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16091	0.25	0.91	ND	364	11/16/04	11/17/04	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16091	0.23	0.91	ND	364	11/16/04	11/17/04	
tert-Butanol (TBA)	EPA 8260B	4K16091	0.91	18	ND	364	11/16/04	11/17/04	
Ethanol	EPA 8260B	4K16091	16	55	ND	364	11/16/04	11/17/04	
<i>Surrogate: Dibromofluoromethane (55-155%)</i>							65 %		
<i>Surrogate: Toluene-d8 (60-160%)</i>							72 %		
<i>Surrogate: 4-Bromofluorobenzene (60-155%)</i>							79 %		

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: INK0967-05 (B-9-25 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K16025	0.00050	0.0020	ND	0.914	11/16/04	11/16/04	
Ethylbenzene	EPA 8260B	4K16025	0.00051	0.0020	ND	0.914	11/16/04	11/16/04	
Toluene	EPA 8260B	4K16025	0.00091	0.0020	ND	0.914	11/16/04	11/16/04	
o-Xylene	EPA 8260B	4K16025	0.00047	0.0020	ND	0.914	11/16/04	11/16/04	
m,p-Xylenes	EPA 8260B	4K16025	0.00075	0.0020	ND	0.914	11/16/04	11/16/04	
Xylenes, Total	EPA 8260B	4K16025	0.00075	0.0040	ND	0.914	11/16/04	11/16/04	
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16025	0.00035	0.0050	ND	0.914	11/16/04	11/16/04	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16025	0.00058	0.0050	ND	0.914	11/16/04	11/16/04	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16025	0.00064	0.0050	ND	0.914	11/16/04	11/16/04	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16025	0.0010	0.0050	ND	0.914	11/16/04	11/16/04	
tert-Butanol (TBA)	EPA 8260B	4K16025	0.0047	0.050	0.018	0.914	11/16/04	11/16/04	J,DX
Ethanol	EPA 8260B	4K16025	0.055	0.30	ND	0.914	11/16/04	11/16/04	
<i>Surrogate: Dibromofluoromethane (80-125%)</i>									97 %
<i>Surrogate: Toluene-d8 (80-120%)</i>									109 %
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>									96 %

Sample ID: INK0967-06 (B-9-30 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K16091	0.38	1.1	1.1	1130	11/16/04	11/17/04	
Ethylbenzene	EPA 8260B	4K16091	0.31	1.1	71	1130	11/16/04	11/17/04	
Toluene	EPA 8260B	4K16091	0.37	1.1	37	1130	11/16/04	11/17/04	
o-Xylene	EPA 8260B	4K16091	0.32	1.1	120	1130	11/16/04	11/17/04	
m,p-Xylenes	EPA 8260B	4K16091	0.60	1.1	260	1130	11/16/04	11/17/04	
Xylenes, Total	EPA 8260B	4K16091	0.60	2.3	370	1130	11/16/04	11/17/04	
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16091	0.58	2.8	ND	1130	11/16/04	11/17/04	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16091	0.75	2.8	ND	1130	11/16/04	11/17/04	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16091	0.77	2.8	ND	1130	11/16/04	11/17/04	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16091	0.70	2.8	ND	1130	11/16/04	11/17/04	
tert-Butanol (TBA)	EPA 8260B	4K16091	2.8	57	ND	1130	11/16/04	11/17/04	
Ethanol	EPA 8260B	4K16091	49	170	ND	1130	11/16/04	11/17/04	
<i>Surrogate: Dibromofluoromethane (55-155%)</i>									71 %
<i>Surrogate: Toluene-d8 (60-160%)</i>									84 %
<i>Surrogate: 4-Bromofluorobenzene (60-155%)</i>									117 %

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: INK0967-07 (B-9-35 - Soil)									
Reporting Units: mg/kg									
Benzene	EPA 8260B	4K16025	0.00050	0.0020	0.0017	0.994	11/16/04	11/16/04	J,DX
Ethylbenzene	EPA 8260B	4K16025	0.00051	0.0020	0.010	0.994	11/16/04	11/16/04	
Toluene	EPA 8260B	4K16025	0.00091	0.0020	0.0012	0.994	11/16/04	11/16/04	J,DX
o-Xylene	EPA 8260B	4K16025	0.00047	0.0020	0.0041	0.994	11/16/04	11/16/04	
m,p-Xylenes	EPA 8260B	4K16025	0.00075	0.0020	0.025	0.994	11/16/04	11/16/04	
Xylenes, Total	EPA 8260B	4K16025	0.00075	0.0040	0.029	0.994	11/16/04	11/16/04	
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16025	0.00035	0.0050	ND	0.994	11/16/04	11/16/04	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16025	0.00058	0.0050	ND	0.994	11/16/04	11/16/04	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16025	0.00064	0.0050	ND	0.994	11/16/04	11/16/04	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16025	0.0010	0.0050	0.0048	0.994	11/16/04	11/16/04	J,DX
tert-Butanol (TBA)	EPA 8260B	4K16025	0.0047	0.050	ND	0.994	11/16/04	11/16/04	
Ethanol	EPA 8260B	4K16025	0.055	0.30	ND	0.994	11/16/04	11/16/04	
<i>Surrogate: Dibromofluoromethane (80-125%)</i>									
101 %									
<i>Surrogate: Toluene-d8 (80-120%)</i>									
109 %									
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>									
97 %									

Sample ID: INK0967-08 (B-9-40 - Soil)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: INK0967-08 (B-9-40 - Soil)									
Reporting Units: mg/kg									
Benzene	EPA 8260B	4K16025	0.00044	0.0018	0.00046	0.88	11/16/04	11/16/04	J,DX
Ethylbenzene	EPA 8260B	4K16025	0.00045	0.0018	0.0015	0.88	11/16/04	11/16/04	J,DX
Toluene	EPA 8260B	4K16025	0.00080	0.0018	ND	0.88	11/16/04	11/16/04	
o-Xylene	EPA 8260B	4K16025	0.00041	0.0018	ND	0.88	11/16/04	11/16/04	
m,p-Xylenes	EPA 8260B	4K16025	0.00066	0.0018	0.0024	0.88	11/16/04	11/16/04	
Xylenes, Total	EPA 8260B	4K16025	0.00066	0.0035	0.0024	0.88	11/16/04	11/16/04	J,DX
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16025	0.00031	0.0044	ND	0.88	11/16/04	11/16/04	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16025	0.00051	0.0044	ND	0.88	11/16/04	11/16/04	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16025	0.00056	0.0044	ND	0.88	11/16/04	11/16/04	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16025	0.00088	0.0044	0.0018	0.88	11/16/04	11/16/04	J,DX
tert-Butanol (TBA)	EPA 8260B	4K16025	0.0041	0.044	ND	0.88	11/16/04	11/16/04	
Ethanol	EPA 8260B	4K16025	0.048	0.26	ND	0.88	11/16/04	11/16/04	
<i>Surrogate: Dibromofluoromethane (80-125%)</i>									
107 %									
<i>Surrogate: Toluene-d8 (80-120%)</i>									
108 %									
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>									
102 %									

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: INK0967-09 (B-9-45 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K16025	0.00040	0.0016	ND	0.806	11/16/04	11/16/04	
Ethylbenzene	EPA 8260B	4K16025	0.00041	0.0016	ND	0.806	11/16/04	11/16/04	
Toluene	EPA 8260B	4K16025	0.00073	0.0016	ND	0.806	11/16/04	11/16/04	
o-Xylene	EPA 8260B	4K16025	0.00038	0.0016	ND	0.806	11/16/04	11/16/04	
m,p-Xylenes	EPA 8260B	4K16025	0.00060	0.0016	0.0013	0.806	11/16/04	11/16/04	J,DX
Xylenes, Total	EPA 8260B	4K16025	0.00060	0.0032	0.0013	0.806	11/16/04	11/16/04	J,DX
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16025	0.00028	0.0040	ND	0.806	11/16/04	11/16/04	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16025	0.00047	0.0040	ND	0.806	11/16/04	11/16/04	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16025	0.00052	0.0040	ND	0.806	11/16/04	11/16/04	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16025	0.00081	0.0040	ND	0.806	11/16/04	11/16/04	
tert-Butanol (TBA)	EPA 8260B	4K16025	0.0038	0.040	ND	0.806	11/16/04	11/16/04	
Ethanol	EPA 8260B	4K16025	0.044	0.24	ND	0.806	11/16/04	11/16/04	

Surrogate: Dibromofluoromethane (80-125%)

106 %

Surrogate: Toluene-d8 (80-120%)

108 %

Surrogate: 4-Bromofluorobenzene (80-120%)

100 %

Sample ID: INK0967-10 (B-9-50 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K16025	0.00040	0.0016	0.00084	0.805	11/16/04	11/16/04	
Ethylbenzene	EPA 8260B	4K16025	0.00041	0.0016	0.0039	0.805	11/16/04	11/16/04	
Toluene	EPA 8260B	4K16025	0.00073	0.0016	ND	0.805	11/16/04	11/16/04	
o-Xylene	EPA 8260B	4K16025	0.00038	0.0016	ND	0.805	11/16/04	11/16/04	
m,p-Xylenes	EPA 8260B	4K16025	0.00060	0.0016	0.012	0.805	11/16/04	11/16/04	
Xylenes, Total	EPA 8260B	4K16025	0.00060	0.0032	0.012	0.805	11/16/04	11/16/04	
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16025	0.00028	0.0040	ND	0.805	11/16/04	11/16/04	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16025	0.00047	0.0040	ND	0.805	11/16/04	11/16/04	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16025	0.00052	0.0040	ND	0.805	11/16/04	11/16/04	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16025	0.00081	0.0040	0.0017	0.805	11/16/04	11/16/04	J,DX
tert-Butanol (TBA)	EPA 8260B	4K16025	0.0038	0.040	0.012	0.805	11/16/04	11/16/04	J,DX
Ethanol	EPA 8260B	4K16025	0.044	0.24	ND	0.805	11/16/04	11/16/04	

Surrogate: Dibromofluoromethane (80-125%)

106 %

Surrogate: Toluene-d8 (80-120%)

109 %

Surrogate: 4-Bromofluorobenzene (80-120%)

97 %

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: INK0967-11 (B-9-55 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K16025	0.00050	0.0020	ND	0.949	11/16/04	11/16/04
Ethylbenzene	EPA 8260B	4K16025	0.00051	0.0020	ND	0.949	11/16/04	11/16/04
Toluene	EPA 8260B	4K16025	0.00091	0.0020	ND	0.949	11/16/04	11/16/04
o-Xylene	EPA 8260B	4K16025	0.00047	0.0020	ND	0.949	11/16/04	11/16/04
m,p-Xylenes	EPA 8260B	4K16025	0.00075	0.0020	ND	0.949	11/16/04	11/16/04
Xylenes, Total	EPA 8260B	4K16025	0.00075	0.0040	ND	0.949	11/16/04	11/16/04
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16025	0.00035	0.0050	ND	0.949	11/16/04	11/16/04
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16025	0.00058	0.0050	ND	0.949	11/16/04	11/16/04
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16025	0.00064	0.0050	ND	0.949	11/16/04	11/16/04
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16025	0.0010	0.0050	ND	0.949	11/16/04	11/16/04
tert-Butanol (TBA)	EPA 8260B	4K16025	0.0047	0.050	ND	0.949	11/16/04	11/16/04
Ethanol	EPA 8260B	4K16025	0.055	0.30	ND	0.949	11/16/04	11/16/04

Surrogate: Dibromofluoromethane (80-125%)

103 %

Surrogate: Toluene-d8 (80-120%)

109 %

Surrogate: 4-Bromofluorobenzene (80-120%)

99 %

Sample ID: INK0967-12 (B-9-60 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K16025	0.00050	0.0020	ND	1.05	11/16/04	11/16/04
Ethylbenzene	EPA 8260B	4K16025	0.00051	0.0020	ND	1.05	11/16/04	11/16/04
Toluene	EPA 8260B	4K16025	0.00091	0.0020	ND	1.05	11/16/04	11/16/04
o-Xylene	EPA 8260B	4K16025	0.00047	0.0020	ND	1.05	11/16/04	11/16/04
m,p-Xylenes	EPA 8260B	4K16025	0.00075	0.0020	ND	1.05	11/16/04	11/16/04
Xylenes, Total	EPA 8260B	4K16025	0.00075	0.0040	ND	1.05	11/16/04	11/16/04
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16025	0.00035	0.0050	ND	1.05	11/16/04	11/16/04
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16025	0.00058	0.0050	ND	1.05	11/16/04	11/16/04
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16025	0.00064	0.0050	ND	1.05	11/16/04	11/16/04
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16025	0.0010	0.0050	ND	1.05	11/16/04	11/16/04
tert-Butanol (TBA)	EPA 8260B	4K16025	0.0047	0.050	ND	1.05	11/16/04	11/16/04
Ethanol	EPA 8260B	4K16025	0.055	0.30	ND	1.05	11/16/04	11/16/04

Surrogate: Dibromofluoromethane (80-125%)

101 %

Surrogate: Toluene-d8 (80-120%)

107 %

Surrogate: 4-Bromofluorobenzene (80-120%)

94 %

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: INK0967-13 (B-9-65 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K16025	0.00059	0.0024	ND	1.18	11/16/04	11/16/04
Ethylbenzene	EPA 8260B	4K16025	0.00060	0.0024	ND	1.18	11/16/04	11/16/04
Toluene	EPA 8260B	4K16025	0.0011	0.0024	ND	1.18	11/16/04	11/16/04
o-Xylene	EPA 8260B	4K16025	0.00056	0.0024	ND	1.18	11/16/04	11/16/04
m,p-Xylenes	EPA 8260B	4K16025	0.00089	0.0024	ND	1.18	11/16/04	11/16/04
Xylenes, Total	EPA 8260B	4K16025	0.00089	0.0047	ND	1.18	11/16/04	11/16/04
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16025	0.00041	0.0059	ND	1.18	11/16/04	11/16/04
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16025	0.00069	0.0059	ND	1.18	11/16/04	11/16/04
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16025	0.00076	0.0059	ND	1.18	11/16/04	11/16/04
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16025	0.0012	0.0059	ND	1.18	11/16/04	11/16/04
tert-Butanol (TBA)	EPA 8260B	4K16025	0.0056	0.059	ND	1.18	11/16/04	11/16/04
Ethanol	EPA 8260B	4K16025	0.065	0.35	ND	1.18	11/16/04	11/16/04

Surrogate: Dibromofluoromethane (80-125%)

108 %

Surrogate: Toluene-d8 (80-120%)

108 %

Surrogate: 4-Bromofluorobenzene (80-120%)

100 %

Sample ID: INK0967-14 (B-9-70 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K16031	0.00050	0.0020	ND	1	11/16/04	11/16/04
Ethylbenzene	EPA 8260B	4K16031	0.00051	0.0020	ND	1	11/16/04	11/16/04
Toluene	EPA 8260B	4K16031	0.00091	0.0020	ND	1	11/16/04	11/16/04
o-Xylene	EPA 8260B	4K16031	0.00047	0.0020	ND	1	11/16/04	11/16/04
m,p-Xylenes	EPA 8260B	4K16031	0.00075	0.0020	ND	1	11/16/04	11/16/04
Xylenes, Total	EPA 8260B	4K16031	0.00075	0.0040	ND	1	11/16/04	11/16/04
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16031	0.00035	0.0050	ND	1	11/16/04	11/16/04
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16031	0.00058	0.0050	ND	1	11/16/04	11/16/04
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16031	0.00064	0.0050	ND	1	11/16/04	11/16/04
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16031	0.0010	0.0050	ND	1	11/16/04	11/16/04
tert-Butanol (TBA)	EPA 8260B	4K16031	0.0047	0.050	ND	1	11/16/04	11/16/04
Ethanol	EPA 8260B	4K16031	0.055	0.30	ND	1	11/16/04	11/16/04

Surrogate: Dibromofluoromethane (80-125%)

106 %

Surrogate: Toluene-d8 (80-120%)

101 %

Surrogate: 4-Bromofluorobenzene (80-120%)

102 %

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
---------	--------	-------	-----------	-----------------	---------------	-----------------	----------------	---------------	-----------------

Sample ID: INK0967-15 (B-9-75 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K16031	0.00050	0.0020	ND	1.04	11/16/04	11/16/04	
Ethylbenzene	EPA 8260B	4K16031	0.00051	0.0020	ND	1.04	11/16/04	11/16/04	
Toluene	EPA 8260B	4K16031	0.00091	0.0020	ND	1.04	11/16/04	11/16/04	
o-Xylene	EPA 8260B	4K16031	0.00047	0.0020	ND	1.04	11/16/04	11/16/04	
m,p-Xylenes	EPA 8260B	4K16031	0.00075	0.0020	ND	1.04	11/16/04	11/16/04	
Xylenes, Total	EPA 8260B	4K16031	0.00075	0.0040	ND	1.04	11/16/04	11/16/04	
Di-isopropyl Ether (DIPE)	EPA 8260B	4K16031	0.00035	0.0050	ND	1.04	11/16/04	11/16/04	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K16031	0.00058	0.0050	ND	1.04	11/16/04	11/16/04	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K16031	0.00064	0.0050	ND	1.04	11/16/04	11/16/04	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K16031	0.0010	0.0050	ND	1.04	11/16/04	11/16/04	
tert-Butanol (TBA)	EPA 8260B	4K16031	0.0047	0.050	ND	1.04	11/16/04	11/16/04	
Ethanol	EPA 8260B	4K16031	0.055	0.30	ND	1.04	11/16/04	11/16/04	IO
<i>Surrogate: Dibromofluoromethane (80-125%)</i>					100 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					103 %				
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					101 %				

Sample ID: INK0967-17 (B-9-80 - Soil)

Reporting Units: mg/kg

Benzene	EPA 8260B	4K17029	0.00050	0.0020	ND	1.07	11/17/04	11/17/04	
Ethylbenzene	EPA 8260B	4K17029	0.00051	0.0020	ND	1.07	11/17/04	11/17/04	
Toluene	EPA 8260B	4K17029	0.00091	0.0020	ND	1.07	11/17/04	11/17/04	
o-Xylene	EPA 8260B	4K17029	0.00047	0.0020	ND	1.07	11/17/04	11/17/04	
m,p-Xylenes	EPA 8260B	4K17029	0.00075	0.0020	ND	1.07	11/17/04	11/17/04	
Xylenes, Total	EPA 8260B	4K17029	0.00075	0.0040	ND	1.07	11/17/04	11/17/04	
Di-isopropyl Ether (DIPE)	EPA 8260B	4K17029	0.00035	0.0050	ND	1.07	11/17/04	11/17/04	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	4K17029	0.00058	0.0050	ND	1.07	11/17/04	11/17/04	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	4K17029	0.00064	0.0050	ND	1.07	11/17/04	11/17/04	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	4K17029	0.0010	0.0050	ND	1.07	11/17/04	11/17/04	
tert-Butanol (TBA)	EPA 8260B	4K17029	0.0047	0.050	ND	1.07	11/17/04	11/17/04	
Ethanol	EPA 8260B	4K17029	0.055	0.30	ND	1.07	11/17/04	11/17/04	
<i>Surrogate: Dibromofluoromethane (80-125%)</i>					104 %				
<i>Surrogate: Toluene-d8 (80-120%)</i>					103 %				
<i>Surrogate: 4-Bromofluorobenzene (80-120%)</i>					101 %				

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles
 Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS (EPA 5035B/CADHS Mod. 8015)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

Batch: 4K15030 Extracted: 11/15/04

Blank Analyzed: 11/15/04 (4K15030-BLK1)

GRO (C4 - C12)	ND	1.0	0.13	mg/kg						
Surrogate: 4-BFB (FID)	0.0204			mg/kg	0.0200		102	65-135		

LCS Analyzed: 11/15/04 (4K15030-BS1)

GRO (C4 - C12)	0.478	1.0	0.13	mg/kg	0.440		109	75-130		DU
Surrogate: 4-BFB (FID)	0.0211			mg/kg	0.0200		106	65-135		J,DX

LCS Dup Analyzed: 11/15/04 (4K15030-BSD1)

GRO (C4 - C12)	0.476	1.0	0.13	mg/kg	0.440		108	75-130	0	20	J,DX
Surrogate: 4-BFB (FID)	0.0196			mg/kg	0.0200		98	65-135			

Batch: 4K15111 Extracted: 11/15/04

Blank Analyzed: 11/16/04 (4K15111-BLK1)

GRO (C4 - C12)	ND	50	6.5	mg/kg						
Surrogate: 4-BFB (FID)	2.02			mg/kg	2.00		101	65-135		

LCS Analyzed: 11/16/04 (4K15111-BS1)

GRO (C4 - C12)	41.3	100	13	mg/kg	44.0		94	75-130		DU
Surrogate: 4-BFB (FID)	2.08			mg/kg	2.00		104	65-135		J,DX

LCS Dup Analyzed: 11/16/04 (4K15111-BSD1)

GRO (C4 - C12)	45.6	100	13	mg/kg	44.0		104	75-130	10	20	J,DX
Surrogate: 4-BFB (FID)	2.19			mg/kg	2.00		110	65-135			

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles
 Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------	-------------	---------	-----------	-----------------

Batch: 4K15024 Extracted: 11/15/04

Blank Analyzed: 11/15/04 (4K15024-BLK1)

Benzene	ND	0.0020	0.00050	mg/kg							
Ethylbenzene	ND	0.0020	0.00051	mg/kg							
Toluene	ND	0.0020	0.00091	mg/kg							
o-Xylene	ND	0.0020	0.00047	mg/kg							
m,p-Xylenes	ND	0.0020	0.00075	mg/kg							
Xylenes, Total	ND	0.0040	0.00075	mg/kg							
Di-isopropyl Ether (DIPE)	ND	0.0050	0.00035	mg/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	0.0050	0.00058	mg/kg							
tert-Amyl Methyl Ether (TAME)	ND	0.0050	0.00064	mg/kg							
Methyl-tert-butyl Ether (MTBE)	ND	0.0050	0.0010	mg/kg							
tert-Butanol (TBA)	ND	0.050	0.0047	mg/kg							
Ethanol	ND	0.30	0.055	mg/kg							
<i>Surrogate: Dibromofluoromethane</i>	0.0487			mg/kg	0.0500		97	80-125			
<i>Surrogate: Toluene-d8</i>	0.0530			mg/kg	0.0500		106	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0473			mg/kg	0.0500		95	80-120			

LCS Analyzed: 11/15/04 (4K15024-BS1)

Benzene	0.0500	0.0020	0.00050	mg/kg	0.0500		100	70-120			
Ethylbenzene	0.0505	0.0020	0.00051	mg/kg	0.0500		101	75-125			
Toluene	0.0492	0.0020	0.00091	mg/kg	0.0500		98	75-120			
o-Xylene	0.0488	0.0020	0.00047	mg/kg	0.0500		98	80-125			
m,p-Xylenes	0.101	0.0020	0.00075	mg/kg	0.100		101	80-125			
Xylenes, Total	0.150	0.0040	0.00075	mg/kg	0.150		100	80-125			
Di-isopropyl Ether (DIPE)	0.0496	0.0050	0.00035	mg/kg	0.0500		99	65-135			
Ethyl tert-Butyl Ether (ETBE)	0.0474	0.0050	0.00058	mg/kg	0.0500		95	60-140			
tert-Amyl Methyl Ether (TAME)	0.0477	0.0050	0.00064	mg/kg	0.0500		95	60-140			
Methyl-tert-butyl Ether (MTBE)	0.0466	0.0050	0.0010	mg/kg	0.0500		93	55-145			
tert-Butanol (TBA)	0.270	0.050	0.0047	mg/kg	0.250		108	70-140			
Ethanol	0.512	0.30	0.055	mg/kg	0.500		102	35-165			
<i>Surrogate: Dibromofluoromethane</i>	0.0490			mg/kg	0.0500		98	80-125			
<i>Surrogate: Toluene-d8</i>	0.0531			mg/kg	0.0500		106	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0479			mg/kg	0.0500		96	80-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles
 Report Number: INK0967

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Sampled: 11/10/04
 Received: 11/11/04

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

Batch: 4K15024 Extracted: 11/15/04

Matrix Spike Analyzed: 11/15/04 (4K15024-MS1)

		Source: INK1046-04							
Benzene	0.0537	0.0020	0.00050	mg/kg	0.0482	ND	111	65-130	
Ethylbenzene	0.0533	0.0020	0.00051	mg/kg	0.0482	ND	111	70-135	
Toluene	0.0531	0.0020	0.00091	mg/kg	0.0482	ND	110	70-125	
o-Xylene	0.0524	0.0020	0.00047	mg/kg	0.0482	ND	109	70-125	
m,p-Xylenes	0.106	0.0020	0.00075	mg/kg	0.0963	ND	110	70-130	
Xylenes, Total	0.159	0.0040	0.00075	mg/kg	0.145	ND	110	70-130	
Di-isopropyl Ether (DIPE)	0.0556	0.0050	0.00035	mg/kg	0.0482	ND	115	65-145	
Ethyl tert-Butyl Ether (ETBE)	0.0538	0.0050	0.00058	mg/kg	0.0482	ND	112	60-145	
tert-Amyl Methyl Ether (TAME)	0.0551	0.0050	0.00064	mg/kg	0.0482	ND	114	60-150	
Methyl-tert-butyl Ether (MTBE)	0.0541	0.0050	0.0010	mg/kg	0.0482	ND	112	50-155	
tert-Butanol (TBA)	0.276	0.050	0.0047	mg/kg	0.241	ND	115	65-145	
Ethanol	0.409	0.30	0.055	mg/kg	0.482	ND	85	30-165	
Surrogate: Dibromofluoromethane	0.0451			mg/kg	0.0482		94	80-125	
Surrogate: Toluene-d8	0.0509			mg/kg	0.0482		106	80-120	
Surrogate: 4-Bromofluorobenzene	0.0461			mg/kg	0.0482		96	80-120	

Matrix Spike Dup Analyzed: 11/15/04 (4K15024-MSD1)

		Source: INK1046-04							
Benzene	0.0537	0.0020	0.00050	mg/kg	0.0483	ND	111	65-130	0
Ethylbenzene	0.0536	0.0020	0.00051	mg/kg	0.0483	ND	111	70-135	1
Toluene	0.0530	0.0020	0.00091	mg/kg	0.0483	ND	110	70-125	0
o-Xylene	0.0527	0.0020	0.00047	mg/kg	0.0483	ND	109	70-125	1
m,p-Xylenes	0.108	0.0020	0.00075	mg/kg	0.0965	ND	112	70-130	2
Xylenes, Total	0.161	0.0040	0.00075	mg/kg	0.145	ND	111	70-130	1
Di-isopropyl Ether (DIPE)	0.0535	0.0050	0.00035	mg/kg	0.0483	ND	111	65-145	4
Ethyl tert-Butyl Ether (ETBE)	0.0502	0.0050	0.00058	mg/kg	0.0483	ND	104	60-145	7
tert-Amyl Methyl Ether (TAME)	0.0501	0.0050	0.00064	mg/kg	0.0483	ND	104	60-150	10
Methyl-tert-butyl Ether (MTBE)	0.0480	0.0050	0.0010	mg/kg	0.0483	ND	99	50-155	12
tert-Butanol (TBA)	0.281	0.050	0.0047	mg/kg	0.241	ND	117	65-145	2
Ethanol	0.483	0.30	0.055	mg/kg	0.483	ND	100	30-165	17
Surrogate: Dibromofluoromethane	0.0438			mg/kg	0.0483		91	80-125	
Surrogate: Toluene-d8	0.0514			mg/kg	0.0483		106	80-120	
Surrogate: 4-Bromofluorobenzene	0.0463			mg/kg	0.0483		96	80-120	

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles
 Report Number: INK0967

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Sampled: 11/10/04
 Received: 11/11/04

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------	-------------	---------	-----------	-----------------

Batch: 4K16025 Extracted: 11/16/04

Blank Analyzed: 11/16/04 (4K16025-BLK1)

Benzene	ND	0.0020	0.00050	mg/kg							
Ethylbenzene	ND	0.0020	0.00051	mg/kg							
Toluene	ND	0.0020	0.00091	mg/kg							
o-Xylene	ND	0.0020	0.00047	mg/kg							
m,p-Xylenes	ND	0.0020	0.00075	mg/kg							
Xylenes, Total	ND	0.0040	0.00075	mg/kg							
Di-isopropyl Ether (DIPE)	ND	0.0050	0.00035	mg/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	0.0050	0.00058	mg/kg							
tert-Amyl Methyl Ether (TAME)	ND	0.0050	0.00064	mg/kg							
Methyl-tert-butyl Ether (MTBE)	ND	0.0050	0.0010	mg/kg							
tert-Butanol (TBA)	ND	0.050	0.0047	mg/kg							
Ethanol	ND	0.30	0.055	mg/kg							
<i>Surrogate: Dibromofluoromethane</i>	0.0520			mg/kg	0.0500			104	80-125		
<i>Surrogate: Toluene-d8</i>	0.0547			mg/kg	0.0500			109	80-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0499			mg/kg	0.0500			100	80-120		

LCS Analyzed: 11/16/04 (4K16025-BS1)

Benzene	0.0491	0.0020	0.00050	mg/kg	0.0500		98	70-120			
Ethylbenzene	0.0543	0.0020	0.00051	mg/kg	0.0500		109	75-125			
Toluene	0.0540	0.0020	0.00091	mg/kg	0.0500		108	75-120			
o-Xylene	0.0512	0.0020	0.00047	mg/kg	0.0500		102	80-125			
m,p-Xylenes	0.106	0.0020	0.00075	mg/kg	0.100		106	80-125			
Xylenes, Total	0.157	0.0040	0.00075	mg/kg	0.150		105	80-125			
Di-isopropyl Ether (DIPE)	0.0534	0.0050	0.00035	mg/kg	0.0500		107	65-135			
Ethyl tert-Butyl Ether (ETBE)	0.0575	0.0050	0.00058	mg/kg	0.0500		115	60-140			
tert-Amyl Methyl Ether (TAME)	0.0621	0.0050	0.00064	mg/kg	0.0500		124	60-140			
Methyl-tert-butyl Ether (MTBE)	0.0618	0.0050	0.0010	mg/kg	0.0500		124	55-145			
tert-Butanol (TBA)	0.262	0.050	0.0047	mg/kg	0.250		105	70-140			
Ethanol	0.314	0.30	0.055	mg/kg	0.500		63	35-165			
<i>Surrogate: Dibromofluoromethane</i>	0.0508			mg/kg	0.0500		102	80-125			
<i>Surrogate: Toluene-d8</i>	0.0543			mg/kg	0.0500		109	80-120			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0510			mg/kg	0.0500		102	80-120			

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles
 Report Number: INK0967

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Sampled: 11/10/04
 Received: 11/11/04

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 4K16025 Extracted: 11/16/04											
LCS Dup Analyzed: 11/16/04 (4K16025-BSD1)											
Benzene	0.0459	0.0020	0.00050	mg/kg	0.0500	92	70-120	7	20		
Ethylbenzene	0.0517	0.0020	0.00051	mg/kg	0.0500	103	75-125	5	20		
Toluene	0.0499	0.0020	0.00091	mg/kg	0.0500	100	75-120	8	20		
o-Xylene	0.0487	0.0020	0.00047	mg/kg	0.0500	97	80-125	5	20		
m,p-Xylenes	0.101	0.0020	0.00075	mg/kg	0.100	101	80-125	5	20		
Xylenes, Total	0.149	0.0040	0.00075	mg/kg	0.150	99	80-125	5	20		
Di-isopropyl Ether (DIPE)	0.0470	0.0050	0.00035	mg/kg	0.0500	94	65-135	13	20		
Ethyl tert-Butyl Ether (ETBE)	0.0481	0.0050	0.00058	mg/kg	0.0500	96	60-140	18	20		
tert-Amyl Methyl Ether (TAME)	0.0493	0.0050	0.00064	mg/kg	0.0500	99	60-140	23	20	RB	
Methyl-tert-butyl Ether (MTBE)	0.0468	0.0050	0.0010	mg/kg	0.0500	94	55-145	28	25	RB	
tert-Butanol (TBA)	0.240	0.050	0.0047	mg/kg	0.250	96	70-140	9	20		
Ethanol	0.366	0.30	0.055	mg/kg	0.500	73	35-165	15	30		
Surrogate: Dibromofluoromethane	0.0506			mg/kg	0.0500	101	80-125				
Surrogate: Toluene-d8	0.0544			mg/kg	0.0500	109	80-120				
Surrogate: 4-Bromofluorobenzene	0.0508			mg/kg	0.0500	102	80-120				

Batch: 4K16031 Extracted: 11/16/04

Blank Analyzed: 11/16/04 (4K16031-BLK1)

Benzene	ND	0.0020	0.00050	mg/kg							
Ethylbenzene	ND	0.0020	0.00051	mg/kg							
Toluene	ND	0.0020	0.00091	mg/kg							
o-Xylene	ND	0.0020	0.00047	mg/kg							
m,p-Xylenes	ND	0.0020	0.00075	mg/kg							
Xylenes, Total	ND	0.0040	0.00075	mg/kg							
Di-isopropyl Ether (DIPE)	ND	0.0050	0.00035	mg/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	0.0050	0.00058	mg/kg							
tert-Amyl Methyl Ether (TAME)	ND	0.0050	0.00064	mg/kg							
Methyl-tert-butyl Ether (MTBE)	ND	0.0050	0.0010	mg/kg							
tert-Butanol (TBA)	ND	0.050	0.0047	mg/kg							
Ethanol	ND	0.30	0.055	mg/kg							
Surrogate: Dibromofluoromethane	0.0495			mg/kg	0.0500	99	80-125				
Surrogate: Toluene-d8	0.0520			mg/kg	0.0500	104	80-120				
Surrogate: 4-Bromofluorobenzene	0.0508			mg/kg	0.0500	102	80-120				

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------	-------------	---------	-----------	-----------------

Batch: 4K16031 Extracted: 11/16/04

LCS Analyzed: 11/16/04 (4K16031-BS1)

Benzene	0.0519	0.0020	0.00050	mg/kg	0.0500		104	70-120
Ethylbenzene	0.0599	0.0020	0.00051	mg/kg	0.0500		120	75-125
Toluene	0.0558	0.0020	0.00091	mg/kg	0.0500		112	75-120
o-Xylene	0.0493	0.0020	0.00047	mg/kg	0.0500		99	80-125
m,p-Xylenes	0.104	0.0020	0.00075	mg/kg	0.100		104	80-125
Xylenes, Total	0.153	0.0040	0.00075	mg/kg	0.150		102	80-125
Di-isopropyl Ether (DIPE)	0.0572	0.0050	0.00035	mg/kg	0.0500		114	65-135
Ethyl tert-Butyl Ether (ETBE)	0.0588	0.0050	0.00058	mg/kg	0.0500		118	60-140
tert-Amyl Methyl Ether (TAME)	0.0510	0.0050	0.00064	mg/kg	0.0500		102	60-140
Methyl-tert-butyl Ether (MTBE)	0.0503	0.0050	0.0010	mg/kg	0.0500		101	55-145
tert-Butanol (TBA)	0.276	0.050	0.0047	mg/kg	0.250		110	70-140
Ethanol	0.484	0.30	0.055	mg/kg	0.500		97	35-165
<i>Surrogate: Dibromofluoromethane</i>	0.0470			mg/kg	0.0500		94	80-125
<i>Surrogate: Toluene-d8</i>	0.0518			mg/kg	0.0500		104	80-120
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0501			mg/kg	0.0500		100	80-120

Matrix Spike Analyzed: 11/16/04 (4K16031-MS1)

							Source: INK0485-02		
Benzene	0.0457	0.0020	0.00050	mg/kg	0.0489	ND	93	65-130	
Ethylbenzene	0.0505	0.0020	0.00051	mg/kg	0.0489	ND	103	70-135	
Toluene	0.0486	0.0020	0.00091	mg/kg	0.0489	ND	99	70-125	
o-Xylene	0.0431	0.0020	0.00047	mg/kg	0.0489	ND	88	70-125	
m,p-Xylenes	0.0869	0.0020	0.00075	mg/kg	0.0978	ND	89	70-130	
Xylenes, Total	0.130	0.0040	0.00075	mg/kg	0.147	ND	88	70-130	
Di-isopropyl Ether (DIPE)	0.0550	0.0050	0.00035	mg/kg	0.0489	ND	112	65-145	
Ethyl tert-Butyl Ether (ETBE)	0.0619	0.0050	0.00058	mg/kg	0.0489	ND	127	60-145	
tert-Amyl Methyl Ether (TAME)	0.0541	0.0050	0.00064	mg/kg	0.0489	ND	111	60-150	
Methyl-tert-butyl Ether (MTBE)	0.0558	0.0050	0.0010	mg/kg	0.0489	ND	114	50-155	
tert-Butanol (TBA)	0.211	0.050	0.0047	mg/kg	0.245	ND	86	65-145	
Ethanol	0.347	0.30	0.055	mg/kg	0.489	ND	71	30-165	
<i>Surrogate: Dibromofluoromethane</i>	0.0509			mg/kg	0.0489		104	80-125	
<i>Surrogate: Toluene-d8</i>	0.0505			mg/kg	0.0489		103	80-120	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0479			mg/kg	0.0489		98	80-120	

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

Batch: 4K16031 Extracted: 11/16/04

Matrix Spike Dup Analyzed: 11/16/04 (4K16031-MSD1)

							Source: INK0485-02			
Benzene	0.0470	0.0020	0.00050	mg/kg	0.0501	ND	94	65-130	3	20
Ethylbenzene	0.0511	0.0020	0.00051	mg/kg	0.0501	ND	102	70-135	1	25
Toluene	0.0491	0.0020	0.00091	mg/kg	0.0501	ND	98	70-125	1	20
o-Xylene	0.0445	0.0020	0.00047	mg/kg	0.0501	ND	89	70-125	3	25
m,p-Xylenes	0.0913	0.0020	0.00075	mg/kg	0.100	ND	91	70-130	5	25
Xylenes, Total	0.136	0.0040	0.00075	mg/kg	0.150	ND	91	70-130	5	25
Di-isopropyl Ether (DIPE)	0.0539	0.0050	0.00035	mg/kg	0.0501	ND	108	65-145	2	25
Ethyl tert-Butyl Ether (ETBE)	0.0588	0.0050	0.00058	mg/kg	0.0501	ND	117	60-145	5	30
tert-Amyl Methyl Ether (TAME)	0.0532	0.0050	0.00064	mg/kg	0.0501	ND	106	60-150	2	25
Methyl-tert-butyl Ether (MTBE)	0.0546	0.0050	0.0010	mg/kg	0.0501	ND	109	50-155	2	35
tert-Butanol (TBA)	0.221	0.050	0.0047	mg/kg	0.251	ND	88	65-145	5	30
Ethanol	0.383	0.30	0.055	mg/kg	0.501	ND	76	30-165	10	40
Surrogate: Dibromofluoromethane	0.0494			mg/kg	0.0501		99	80-125		
Surrogate: Toluene-d8	0.0523			mg/kg	0.0501		104	80-120		
Surrogate: 4-Bromofluorobenzene	0.0511			mg/kg	0.0501		102	80-120		

Batch: 4K16091 Extracted: 11/16/04

Blank Analyzed: 11/17/04 (4K16091-BLK1)

Benzene	ND	0.10	0.034	mg/kg						
Ethylbenzene	ND	0.10	0.027	mg/kg						
Toluene	ND	0.10	0.033	mg/kg						
o-Xylene	ND	0.10	0.028	mg/kg						
m,p-Xylenes	ND	0.10	0.053	mg/kg						
Xylenes, Total	ND	0.20	0.053	mg/kg						
Di-isopropyl Ether (DIPE)	ND	0.25	0.051	mg/kg						
Ethyl tert-Butyl Ether (ETBE)	ND	0.25	0.066	mg/kg						
tert-Amyl Methyl Ether (TAME)	ND	0.25	0.068	mg/kg						
Methyl-tert-butyl Ether (MTBE)	ND	0.25	0.062	mg/kg						
tert-Butanol (TBA)	ND	5.0	0.25	mg/kg						
Ethanol	ND	15	4.3	mg/kg						
Surrogate: Dibromofluoromethane	3.15			mg/kg	2.50		126	55-155		
Surrogate: Toluene-d8	2.72			mg/kg	2.50		109	60-160		
Surrogate: 4-Bromofluorobenzene	2.70			mg/kg	2.50		108	60-155		

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

Batch: 4K16091 Extracted: 11/16/04

LCS Analyzed: 11/17/04 (4K16091-BS1)

Benzene	2.73	0.10	0.034	mg/kg	2.50		109	75-120			
Ethylbenzene	2.91	0.10	0.027	mg/kg	2.50		116	80-120			
Toluene	2.80	0.10	0.033	mg/kg	2.50		112	80-120			
o-Xylene	2.70	0.10	0.028	mg/kg	2.50		108	80-125			
m,p-Xylenes	5.59	0.10	0.053	mg/kg	5.00		112	80-120			
Xylenes, Total	8.30	0.20	0.053	mg/kg	7.50		111	80-125			
Di-isopropyl Ether (DIPE)	2.56	0.25	0.051	mg/kg	2.50		102	65-140			
Ethyl tert-Butyl Ether (ETBE)	2.42	0.25	0.066	mg/kg	2.50		97	60-145			
tert-Amyl Methyl Ether (TAME)	2.44	0.25	0.068	mg/kg	2.50		98	60-150			
Methyl-tert-butyl Ether (MTBE)	2.29	0.25	0.062	mg/kg	2.50		92	55-150			
tert-Butanol (TBA)	15.4	5.0	0.25	mg/kg	12.5		123	75-140			
Ethanol	52.3	15	4.3	mg/kg	25.0		209	30-165			LP
<i>Surrogate: Dibromofluoromethane</i>	2.88			mg/kg	2.50		115	55-155			
<i>Surrogate: Toluene-d8</i>	2.58			mg/kg	2.50		103	60-160			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.66			mg/kg	2.50		106	60-155			

LCS Dup Analyzed: 11/17/04 (4K16091-BSD1)

Benzene	2.36	0.10	0.034	mg/kg	2.50		94	75-120	15	20	
Ethylbenzene	2.54	0.10	0.027	mg/kg	2.50		102	80-120	14	20	
Toluene	2.43	0.10	0.033	mg/kg	2.50		97	80-120	14	20	
o-Xylene	2.36	0.10	0.028	mg/kg	2.50		94	80-125	13	20	
m,p-Xylenes	4.87	0.10	0.053	mg/kg	5.00		97	80-120	14	20	
Xylenes, Total	7.23	0.20	0.053	mg/kg	7.50		96	80-125	14	20	
Di-isopropyl Ether (DIPE)	2.38	0.25	0.051	mg/kg	2.50		95	65-140	7	20	
Ethyl tert-Butyl Ether (ETBE)	2.26	0.25	0.066	mg/kg	2.50		90	60-145	7	25	
tert-Amyl Methyl Ether (TAME)	2.23	0.25	0.068	mg/kg	2.50		89	60-150	9	25	
Methyl-tert-butyl Ether (MTBE)	2.11	0.25	0.062	mg/kg	2.50		84	55-150	8	25	
tert-Butanol (TBA)	13.8	5.0	0.25	mg/kg	12.5		110	75-140	11	20	
Ethanol	49.6	15	4.3	mg/kg	25.0		198	30-165	5	30	LP
<i>Surrogate: Dibromofluoromethane</i>	2.73			mg/kg	2.50		109	55-155			
<i>Surrogate: Toluene-d8</i>	2.46			mg/kg	2.50		98	60-160			
<i>Surrogate: 4-Bromofluorobenzene</i>	2.50			mg/kg	2.50		100	60-155			

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles
 Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------	-------------	---------	-----------	-----------------

Batch: 4K17029 Extracted: 11/17/04

Blank Analyzed: 11/17/04 (4K17029-BLK1)

Benzene	ND	0.0020	0.00050	mg/kg							
Ethylbenzene	ND	0.0020	0.00051	mg/kg							
Toluene	ND	0.0020	0.00091	mg/kg							
o-Xylene	ND	0.0020	0.00047	mg/kg							
m,p-Xylenes	ND	0.0020	0.00075	mg/kg							
Xylenes, Total	ND	0.0040	0.00075	mg/kg							
Di-isopropyl Ether (DIPE)	ND	0.0050	0.00035	mg/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	0.0050	0.00058	mg/kg							
tert-Amyl Methyl Ether (TAME)	ND	0.0050	0.00064	mg/kg							
Methyl-tert-butyl Ether (MTBE)	ND	0.0050	0.0010	mg/kg							
tert-Butanol (TBA)	ND	0.050	0.0047	mg/kg							
Ethanol	ND	0.30	0.055	mg/kg							
<i>Surrogate: Dibromofluoromethane</i>	0.0515			mg/kg	0.0500			103	80-125		
<i>Surrogate: Toluene-d8</i>	0.0513			mg/kg	0.0500			103	80-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0506			mg/kg	0.0500			101	80-120		

LCS Analyzed: 11/17/04 (4K17029-BS1)

Benzene	0.0458	0.0020	0.00050	mg/kg	0.0500			92	70-120		
Ethylbenzene	0.0453	0.0020	0.00051	mg/kg	0.0500			91	75-125		
Toluene	0.0456	0.0020	0.00091	mg/kg	0.0500			91	75-120		
o-Xylene	0.0440	0.0020	0.00047	mg/kg	0.0500			88	80-125		
m,p-Xylenes	0.0886	0.0020	0.00075	mg/kg	0.100			89	80-125		
Xylenes, Total	0.133	0.0040	0.00075	mg/kg	0.150			89	80-125		
Di-isopropyl Ether (DIPE)	0.0529	0.0050	0.00035	mg/kg	0.0500			106	65-135		
Ethyl tert-Butyl Ether (ETBE)	0.0527	0.0050	0.00058	mg/kg	0.0500			105	60-140		
tert-Amyl Methyl Ether (TAME)	0.0573	0.0050	0.00064	mg/kg	0.0500			115	60-140		
Methyl-tert-butyl Ether (MTBE)	0.0588	0.0050	0.0010	mg/kg	0.0500			118	55-145		
tert-Butanol (TBA)	0.214	0.050	0.0047	mg/kg	0.250			86	70-140		
Ethanol	0.385	0.30	0.055	mg/kg	0.500			77	35-165		
<i>Surrogate: Dibromofluoromethane</i>	0.0530			mg/kg	0.0500			106	80-125		
<i>Surrogate: Toluene-d8</i>	0.0512			mg/kg	0.0500			102	80-120		
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0514			mg/kg	0.0500			103	80-120		

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



SECOR International, Inc.-Orange County
 11085 Knott Ave, Suite B
 Cypress, CA 90630
 Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
 1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
 9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
 9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
 2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Report Number: INK0967

Sampled: 11/10/04
 Received: 11/11/04

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

Batch: 4K17029 Extracted: 11/17/04

Matrix Spike Analyzed: 11/17/04 (4K17029-MS1)

		Source: INK0531-01							
Benzene	0.0586	0.0020	0.00050	mg/kg	0.0548	ND	107	65-130	
Ethylbenzene	0.0559	0.0020	0.00051	mg/kg	0.0548	ND	102	70-135	
Toluene	0.0555	0.0020	0.00091	mg/kg	0.0548	0.0013	99	70-125	
o-Xylene	0.0507	0.0020	0.00047	mg/kg	0.0548	ND	93	70-125	
m,p-Xylenes	0.105	0.0020	0.00075	mg/kg	0.110	ND	95	70-130	
Xylenes, Total	0.156	0.0040	0.00075	mg/kg	0.164	ND	95	70-130	
Di-isopropyl Ether (DIPE)	0.0594	0.0050	0.00035	mg/kg	0.0548	ND	108	65-145	
Ethyl tert-Butyl Ether (ETBE)	0.0525	0.0050	0.00058	mg/kg	0.0548	ND	96	60-145	
tert-Amyl Methyl Ether (TAME)	0.0516	0.0050	0.00064	mg/kg	0.0548	ND	94	60-150	
Methyl-tert-butyl Ether (MTBE)	0.0512	0.0050	0.0010	mg/kg	0.0548	ND	93	50-155	
tert-Butanol (TBA)	0.326	0.050	0.0047	mg/kg	0.274	ND	119	65-145	
Ethanol	0.664	0.30	0.055	mg/kg	0.548	ND	121	30-165	
Surrogate: Dibromofluoromethane	0.0534			mg/kg	0.0548		97	80-125	
Surrogate: Toluene-d8	0.0526			mg/kg	0.0548		96	80-120	
Surrogate: 4-Bromofluorobenzene	0.0492			mg/kg	0.0548		90	80-120	

Matrix Spike Dup Analyzed: 11/17/04 (4K17029-MSD1)

		Source: INK0531-01							
Benzene	0.0573	0.0020	0.00050	mg/kg	0.0546	ND	105	65-130	2
Ethylbenzene	0.0533	0.0020	0.00051	mg/kg	0.0546	ND	98	70-135	5
Toluene	0.0555	0.0020	0.00091	mg/kg	0.0546	0.0013	99	70-125	0
o-Xylene	0.0502	0.0020	0.00047	mg/kg	0.0546	ND	92	70-125	1
m,p-Xylenes	0.103	0.0020	0.00075	mg/kg	0.109	ND	94	70-130	2
Xylenes, Total	0.153	0.0040	0.00075	mg/kg	0.164	ND	93	70-130	2
Di-isopropyl Ether (DIPE)	0.0632	0.0050	0.00035	mg/kg	0.0546	ND	116	65-145	6
Ethyl tert-Butyl Ether (ETBE)	0.0614	0.0050	0.00058	mg/kg	0.0546	ND	112	60-145	16
tert-Amyl Methyl Ether (TAME)	0.0638	0.0050	0.00064	mg/kg	0.0546	ND	117	60-150	21
Methyl-tert-butyl Ether (MTBE)	0.0660	0.0050	0.0010	mg/kg	0.0546	ND	121	50-155	25
tert-Butanol (TBA)	0.299	0.050	0.0047	mg/kg	0.273	ND	110	65-145	9
Ethanol	0.572	0.30	0.055	mg/kg	0.546	ND	105	30-165	15
Surrogate: Dibromofluoromethane	0.0557			mg/kg	0.0546		102	80-125	
Surrogate: Toluene-d8	0.0541			mg/kg	0.0546		99	80-120	
Surrogate: 4-Bromofluorobenzene	0.0522			mg/kg	0.0546		96	80-120	

Del Mar Analytical, Irvine
 Wendy Kirkeeng
 Project Manager



Del Mar Analytical

SECOR International, Inc.-Orange County
11085 Knott Ave, Suite B
Cypress, CA 90630
Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles
Report Number: INK0967

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Sampled: 11/10/04
Received: 11/11/04

DATA QUALIFIERS AND DEFINITIONS

AX	Sample too dilute to quantify surrogate
AZ	Surr. recovery outside of acceptance limits due to matrix interf.
DU	Insufficient sample quantity for matrix spike/dup matrix spike
IO	Contract limits originate from BP-GCLN Technical Requirements
J,DX	EPA Flag - Estimated value, Value < lowest standard (MQL), but > than MDL
LP	Laboratory Control Sample recovery was above method control limits. Analyte not detected, data not impacted.
RB	RPD exceeded method control limit; % recoveries within limits.
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For GRO (C4-C12):

GRO (C4-C12) is quantitated against a gasoline standard. Quantitation begins immediately following the methanol peak.

8015 Analysis EDF Parlabel Cross Reference

Analyte	EDF	Parlabel
GRO (C4 - C12)		GROC4C12

Del Mar Analytical, Irvine
Wendy Kirkeeng
Project Manager



Del Mar Analytical

SECOR International, Inc.-Orange County
11085 Knott Ave, Suite B
Cypress, CA 90630
Attention: Cathy Sanford

Project ID: ARCO 0191, Los Angeles
Report Number: INK0967

17461 Derian Ave., Suite 100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297
1014 E. Cooley Dr., Suite A, Colton, CA 92324 (909) 370-4667 FAX (949) 370-1046
9484 Chesapeake Dr., Suite 805, San Diego, CA 92123 (858) 505-8596 FAX (858) 505-9689
9830 South 51st St., Suite B-120, Phoenix, AZ 85044 (480) 785-0043 FAX (480) 785-0851
2520 E. Sunset Rd. #3, Las Vegas, NV 89120 (702) 798-3620 FAX (702) 798-3621

Sampled: 11/10/04
Received: 11/11/04

Certification Summary

Del Mar Analytical, Irvine

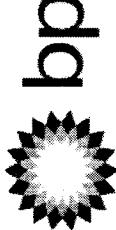
Method	Matrix	NELAP	CA
EPA 8015B	Soil	X	X
EPA 8015B	Soil-extr	X	X
EPA 8260B	Soil	X	X
EPA 8260B	Soil-extr	X	X

NV and NELAP provide analyte specific accreditations. Analyte specific information for Del Mar Analytical may be obtained by contacting the laboratory or visiting our website at www.dmalabs.com.

Del Mar Analytical, Irvine
Wendy Kirkeeng
Project Manager

*The results pertain only to the samples tested in the laboratory. This report shall not be reproduced,
except in full, without written permission from Del Mar Analytical.*

INK0967 <Page 24 of 24>



Chain of Custody Record

Project Name:

Site Assessment

BP BU/AR Region/Enviro Segment:

San Diego/West Los Angeles

State or Lead Regulatory Agency:

City of Los Angeles Fire Department

Requested Due Date (mm/dd/yy): ## 11/27/04

On-site	Time:	Temp:
Off-site	Time:	Temp:
Sky Conditions:		
Meteorological Events:		
Wind Speed:		Direction:

Lab Name:		BP/AR Facility No.:	00 191	Consultant/Contractor:		SECOR International Inc.
Address:		BP/AR Facility Address:	3401 Whittier Blvd, Los Angeles	Address:		11085 Knott Ave Suite B
Site Lat/Long:		California Global ID No.:		Cypress, CA 90630		
Enfoss Project No.:		G09K4-0456 WR 86320		Consultant/Contractor Project No.:		14BP.00191.01
BP/AR PM Contact:		Provision or RCOP (circle one)		Consultant/Contractor PM:		Cathy Sanford
Address:		Phase/WBS:		Tele/Fax:		714-379-3366/ 3375
Sub Phase/Task:		1 Assessment		Report Type & QC Level:		Standard
Tele/Fax:		Cost Element:		E-mail EDD To:		bauchard@secor.com
Lab Bottle Order No.:		Matrix		Preservative		Invoice to: consultant or BP on Atlantic Richfield Co. (circle one)
Item No.	Sample Description	Date	Time	Laboratory No.	No. of Contaminants	Sample Point Lat/Long and Comments
				TNK52967	Unpreserved	
					HCl	
					HNO ₃	
					H ₂ SO ₄	
					BTEX/Oxy/TPH	EPA 8270
					BTEX/Oxy/TPH	EPA 8260 BTEX/OXY/Eth
					BTEX 8021	EPA 8015 TPH ^g
					Methanol	
					Air	
1	B-9-5	11/20	x		7	x
2	B-9-10	11/29	x		7	x
3	B-9-15	11/30	x		7	x
4	B-9-20	11/35	x		7	x
5	B-9-25	11/40	x		7	x
6	B-9-30	11/50	x		7	x
7	B-9-35	11/55	x		7	x
8	B-9-40	11/55	x		7	x
9	B-9-45	11/55	x		7	x
10	B-9-50	11/55	✓		7	x
Sampler's Name:		A. Bauchard		Relinquished By / Affiliation		Date
Sampler's Company:		SECOR		Accepted By / Affiliation		Time
Shipment Date:		11/11/04		11/11/04		11/11/04
Shipment Method:		courier		Ass		9:55 AM
Shipment Tracking No.:						
Special Instructions:						

Custody Seals In Place Yes Temp Blank Yes Cooler Temperature on Receipt 4 °F/C Trip Blank Yes Trip F/C

Distribution: White Copy - Laboratory / Yellow Copy - BP/Atlantic Richfield Co. / Pink Copy - Consultant/Contractor

BP COC Rev. 4 10/1/04



Chain of Custody Record

Project Name: Del Mar Analytical
BP BU/AR Region/Envos Segment: San Diego/West Los Angeles
State or Lead Regulatory Agency: City of Los Angeles Fire Department
Requested Due Date (mm/dd/yy): ## 11/27/04

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab No.	Sample Description	Date	Time	Matrix	Preservative										Requested Analysis										Comments
					Air	Water/Liquid	Solid	Soil/Solid	Date	Time	No. of Contaminants	Umpreserved	H ₂ SO ₄	HNO ₃	HCl	HCN	MeOH	BTEX 8021	BTEX/TPH	EPA 8260 BTEX/OXY/Eth	EPA 8270	BTEX/Oxy/TPH	EPA 8015 TPH _g	Sample Point Lat/Long and	
1	B-9-55	15:30	11/27/04																						
2	B-9-60	15:45	11/27/04																						
3	B-9-65	15:55	11/27/04																						
4	B-9-70	16:05	11/27/04																						
5	B-9-75	16:10	11/27/04																						
6	TB-00191-20041110	—	11/27/04																						
7	EB-00191-20041110	—	11/27/04																						
8	B-9-30	16:55	11/27/04																						
9																									
10																									
Relinquished By / Affiliation										Date	Time	Accepted By / Affiliation										Date	Time		
Samplers Name: Natasia A. Koenig										11/27/04	11:45 AM	Samplers Name: Greg Joffreau DMAP										11/27/04	8:45 AM		
Samplers Company: SECOR												Shipment Date: 11/27/04													
Shipment Method: courier												Shipment Method: 9:55 AM													
Shipment Tracking No:												Shipment Tracking No:													
Special Instructions:																									
Custody Seals In Place Yes										No		Cooler Temperature on Receipt										4	0°F/C		
Trip Blank Yes										No		Trip Blank Yes										X	No		
Distribution: White Copy - Laboratory / Yellow Copy - BP/Atlantic Richfield Co. / Pink Copy - Consultant/Contractor																									
BP COC Rev. 4 10/1/04																									

APPENDIX G

STATE OF CALIFORNIA
California Regional Water Quality Control Board
Los Angeles Region
(Underground Storage Tank Program)

General Laboratory Testing Requirements for Petroleum Hydrocarbon Impacted Sites

The purpose of this document is to supplement the Regional Board's Laboratory Report Form (6/00) in order to update obsolete testing requirements and set forth the new requirements for fuel oxygenates and natural attenuation testing. Each analytical method used must be certified by the California Environmental Accreditation Laboratory Program (ELAP).

1. General Laboratory QA/QC Requirements

Conform to the Regional Board's Laboratory Report Form (6/00) in general, except for items specified below.

2. Compounds to be Tested

Total petroleum hydrocarbons in gasoline range (TPHg) (C4 – C12); Total petroleum hydrocarbons in diesel range (TPHd) (C13 – C22); benzene, toluene, ethylbenzene, xylenes (BTEX); methyl tertiary butyl ether (MTBE); di-isopropyl ether (DIPE); ethyl tertiary butyl ether (ETBE); tertiary amyl methyl ether (TAME); tertiary butyl alcohol (TBA). If the gasoline tanks historically or currently contains methanol or ethanol, these compounds are also to be tested.

3. Analytical Test Methods and Detection Limits

Conform to Table 1 below. Report any concentration detected between the method detection limit (MDL) and estimated quantitation limit (EQL) (or reporting limit (RL)) in a numerical value with a "J" flag indicator. All "Non-Detect" (ND) shall be reported in the format with "< (numerical MDL)." Integrate all fuel oxygenate additive concentrations into total petroleum hydrocarbons (TPH) and report it as TPH. EPA Method 8021B may be used to substitute EPA Method 8260B at the sites where all fuel oxygenates have not been identified by EPA Method 8260B in soil and/or groundwater.

Table 1: Analytical Requirements

Analyte	Analytical Method	Required MDL (Method detection limit)	
		Soil (µg/kg)	Water (µg/L)
BTEX	EPA Method 8260B(8021B)	1	0.5
MTBE	EPA Method 8260B	2	1
DIPE	EPA Method 8260B	2	1
ETBE	EPA Method 8260B	2	1
TAME	EPA Method 8260B	2	1
TBA	EPA Method 8260B	20	10
TPHg	Cal-LUFT GC/FID or GC/MS	100-200	50-100
TPHd	Cal-LUFT GC/FID	1000	500
Methanol	Cal-LUFT GC/FID	1000	500
Ethanol	Cal-LUFT GC/FID(EPA8260B)	500	250

General Laboratory Testing Requirements for Petroleum Hydrocarbon Impacted Sites

4. Use of EPA Method 5035 for Soil Samples

Apply EPA Method 5035 specified in the USEPA SW-846, version III (12/1996) for soil sample preparation and preservation in order to minimize volatile organic losses. Use the sample collection devices, or equivalent, specified in the method (e.g., the Encore™ sampler). If the Encore™ sampler is used, analyze sample within 48 hours from the collection. Analyze sample within 10 days for soil samples stored under frozen conditions.

5. Natural Attenuation Parameters

Natural attenuation processes include dispersion, dilution, sorption, volatilization, biodegradation, and chemical or biological transformation. A carefully controlled monitoring program for the natural attenuation can be used to confirm site-specific mass reduction and achieve remedial objectives. In order to test parameters to confirm the occurrence of natural attenuation, site characterization must be complete first.

5.1 Primary Natural Attenuation Criteria

Meet the following conditions prior to testing for the secondary natural attenuation parameters:

- a) Groundwater contaminant plume must be fully defined.
- b) Groundwater monitoring program on a quarterly basis must be completed for at least two years including data of MTBE and other oxygenates.
- c) Groundwater concentration has consistently decreased or been stable.
- d) Determination of site-specific hydraulic conductivity must be conducted; Refer the ASTM D4044-91 for the slug test procedures. Other field methods (e.g., pumping test) are also acceptable to determine hydraulic conductivity.
- e) Characterization of MTBE and other oxygenates plume vertical extent must be completed with discrete multi-depth groundwater sampling at all groundwater vulnerable areas designated by the Board.

5.2 Secondary Natural Attenuation Parameters

Analyze the secondary natural attenuation parameters only after the primary natural attenuation criteria are met. Analyze the secondary natural attenuation parameters at all groundwater monitoring wells inside and outside of the plume. Conform to Table 2 below for parameters and testing methods.

Table 2: Analytical Requirements for Secondary Natural Attenuation Parameters

<u>Parameters</u>	<u>Test Method</u>	<u>Required MDL</u>
pH	EPA Method 150.2 or Field instrument	n/a
Dissolved oxygen (DO)	EPA Method 360.1 or Field instrument	n/a
Redox potential (ORP)	Field instrument	n/a
Sulfate (SO_4)	EPA Method 300	5 mg/L
Nitrate (NO_3)	EPA Method 300	0.1 mg/L
Ferrous iron (Fe^{2+})	EPA Method 200	0.1 mg/L
Methane (CH_4)	EPA Method 8015(M)	5 $\mu\text{g}/\text{L}$

6. Electronic Submittal of Data Reporting

All analytical results shall be reported in an electronic format to the State GeoTracker Database.